ORDER NO. VRD0102004C2

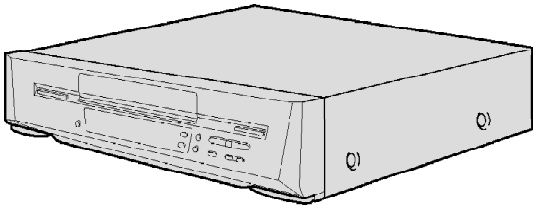
Service Manual

Video Cassette Recorder

Panasonic VHS Hi-Fi PAL

NV-FJ614EG / NV-FJ613EL / NV-FJ613EGY / NV-FJ613EC / NV-FJ613ECM / NV-FJ613ECN / NV-FJ613ECY

Z-MECHANISM



SPECIFICATIONS

SPECIFICATIONS

ITEM	SPECIFICATION	ITEM	SPECIFICATION
POWER	SOURCE: 220-240 V AC 50/60 Hz	AUDIO	HEAD: 1 Stationary head (Normal-mono only) 2 channels (Hi-Fi Sound-Stereo)
	CONSUMPTION: 21 watts COMSUMPTION WHEN IN STANDBY MODE: Approx. 3W		INPUT: EURO AV (AV1) Connector (21 pin) More than -6dBV (500 mV), 10 kΩ EURO AV (AV2) Connector (21 pin) More than -6dBV (500 mV), 10 kΩ (NV-FJ613EC/ECM/ECN/ECY)
RECORDING SYSTEM	2 rotary heads, helical scanning system		OUTPUT: EURO AV (AV1) Connector (21 pin) -6 dBV (500mV), Less than 1kΩ EURO AV (AV2) Connector (21 pin) -6 dBV (500mV), Less than 1kΩ (NV-FJ613EC/ECM/ECN/ECY)
	PAL	TAPE SPEED	SP: 23.39 mm/s LP: 11.695 mm/s EP: 7.796 mm/s Record/Playback Time: SP: 4 hours with 240 min. type tape LP: 8 hours with 240 min. type tape EP: 12 hours with 240min type tape FF/REW Time: 60 sec. with 180 min. type tape
TV TUNER SYSTEM	VHF: CHE2-CHE12 CHA-CHH2 [ITALY] (PAL/SECAM B) UHF: CH21-CH69 (PAL/SECAM G) CATV: CHS01-CHS41 (PAL/SECAM B)	OPERATING TEMPERATURE	5°C - 40°C
RF OUT SYSTEM	UHF: CH21-CH69 (PAL/SECAM G) 71 ± 3 dBμ, 75 Ω close	OPERATING HUMIDITY	35% - 80%
VIDEO	HEADS: 4 rotary heads 1 pair for recording and playback (L-R heads) 1 pair for trick play (L'-R' heads)	DIMENSIONS	430 (W)×87(H)×282(D) mm
	INPUT: EURO AV (AV1) Connector (21 pin) 1.0 Vp-p, 75 Ω terminated EURO AV (AV2) Connector (21 pin) 1.0 Vp-p, 75 Ω terminated (NV-FJ613EC/ECM/ECN/ECY)	WEIGHT	3.3 kg
	OUTPUT: EURO AV (AV1) Connector (21 pin) 1.0 Vp-p, 75 Ω terminated EURO AV (AV2) Connector (21 pin) 1.0 Vp-p, 75 Ω terminated (NV-FJ613EC/ECM/ECN/ECY)	STANDARD ACCESSORIES	1 pc. DIN-RF Cable 1 pc. AC Mains Lead 1 pc. Infra-res Remote Controller

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

1. INTRODUCTION

This service manual contains technical information which will allow service personnel to understand and service this model.
If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

Note:

1. **Adjustment procedures, Disassembly Procedures and Assembly Procedures for Mechanism Chassis are separate volume from this service manual. / Please refer to the service manual for Z-Mechanism Chassis. (Order No. VRD9802005C2)**
2. **The Model No. is indicated on the Schematic Diagram and Circuit Board Diagrams as follows.**

Model No.	Indication Mark
NV-FJ614EG, NV-FJ613EL	(A)
NV-FJ613EGY	(B)
NV-FJ613EC/ECM/ECN	(C)
NV-FJ613ECY	(D)

2. GENERAL DESCRIPTIONS

2.1. SERVICE CAUTION

2.1.1. REPLACING IC7702/EEPROM

When the EEPROM: IC7702 is replaced, applicable model code, option code and electrical adjustment data will not be available.
Therefore, enter and/or adjust the necessary data after replacing IC7702 by referring following procedure.

STEP1.REPLACE THE IC7702

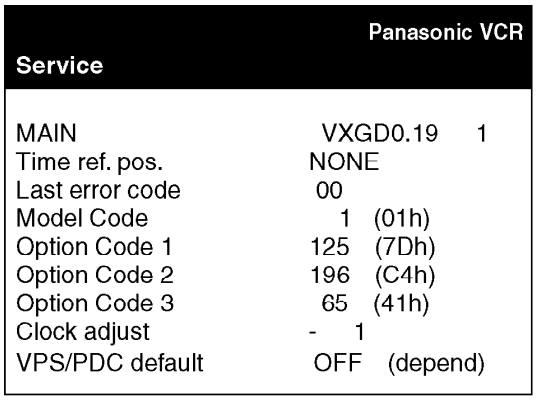
1. **Remove the C.B.A. with Mechanism unit by referring the Disassembly procedure.**
2. **Disconnect the AC plug and replace the IC7702.**

STEP2.INPUT THE MODEL & OPTION CODE

1. Set up the applicable model code and option code by ordering the following table.

PROCEDURE	F.I.P. DISPLAY
Turn on the Service Mode **1.Press the FF key and the EJECT key simultaneously for more than 3 seconds.**	
Activate the Service Mode 2 **2.While keep placing FF key, press the EJECT key in twice.**	
Activate the Entering Mode. **3.Press the EJECT key for more than 3 seconds.**	
Set the Mode 2. **4.Press the CH UP key in twice.**	
Display the Setting Code. **5.Press the POWER Button to turn the power on.**	 **(Colon starts flashing)**
Enter the Model and Option Code. **6.Set the applicable Model and Option code by using REW, PLAY, STOP and FF keys on the Remote Controller. (See Fig.S1 & S2)**	
Exit from Service Mode. **7.Press the POWER Button to turn the power off.** **8. Press FF and EJECT keys simultaneously in 6 times.**	 **(Normal Indication)**

Fig.S1 Service Secreen (sample)



Model No.	Model Code	Option Code 1	Option Code 2	Option Code 3
NV-FJ614EG	65 / (41h)	61 / (3Dh)	212 / (D4h)	6 / (06h)
NV-FJ613EL / / EGY	65 / (41h)	125 / (7Dh)	196 / (C4h)	6 / (06h)
NV-FJ613EC/ / ECM/ECN/ ECY	66 / (42h)	125 / (7Dh)	196 / (C4h)	6 / (06h)

Fig. S2 Model Code & Option Code

NOTE:
Since all electrical adjustments data is still not available, perform the Electrical Adjustment continuously.

2.1.2. CYLINDER UNIT REPLACEMENT

1. CYLINDER UNIT REPLACEMENT

A. Remove the mechanism unit from MAIN C.B.A./Chassis by referring “SECTION 2. Disassembly Procedure”.

B. Remove the 3 screws (A) of the CYLINDER UNIT with a screw driver.

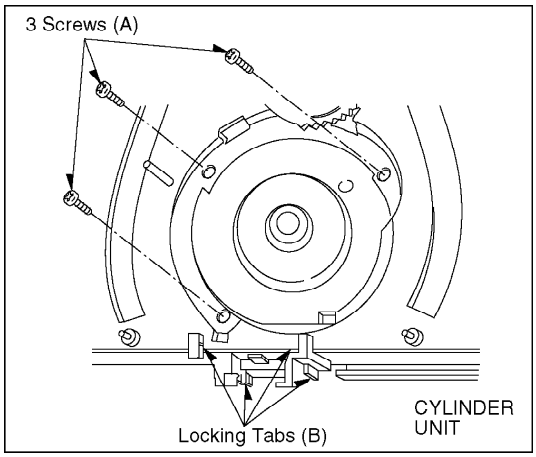
C. Unlock the 4 locking tabs (B) and disconnect the Cylinder fiexible card from the FPC Holder.

D. Remove the CYLINDER UNIT.

CAUTION:

Handle the Cylinder fiexible card with care. When it damaged, you should replace whole Cylinder unit.

Fig. S3



2. UPPER CYLINDER DISASSEMBLY

A. Remove 2 screws (A).

B. Remove the Cylinder Stator Unit.

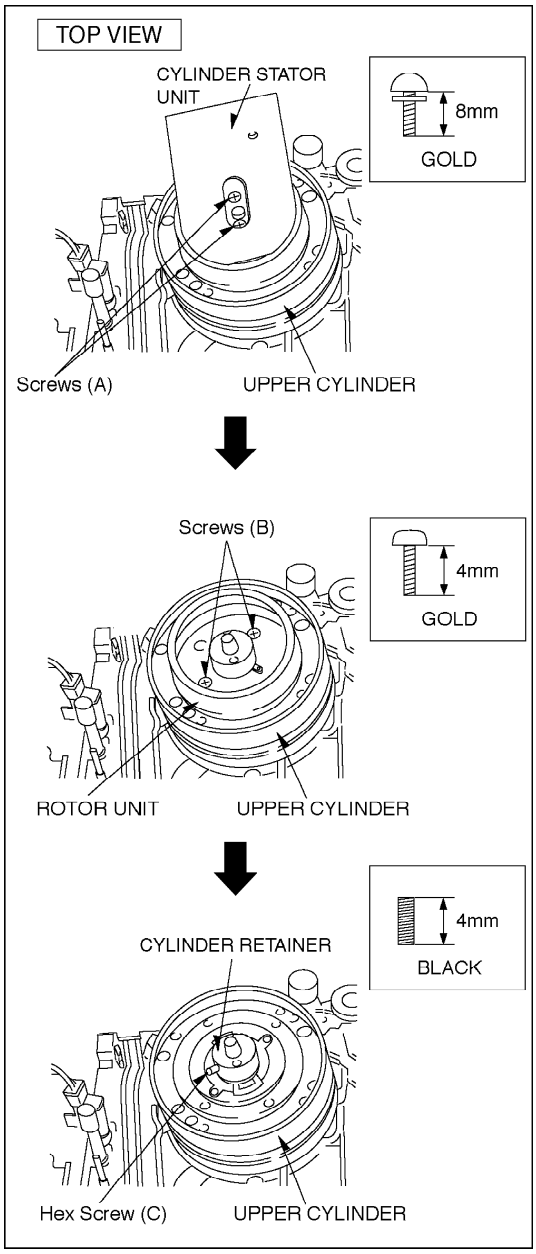
C. Remove 2 screws (B).

D. Remove the Cylinder Rotor Unit.

E. Loose Hex screw (C) (1.5 mm) and remove the CYLINDER RETAINER.

F. Remove the Upper Cylinder.

Fig. S4



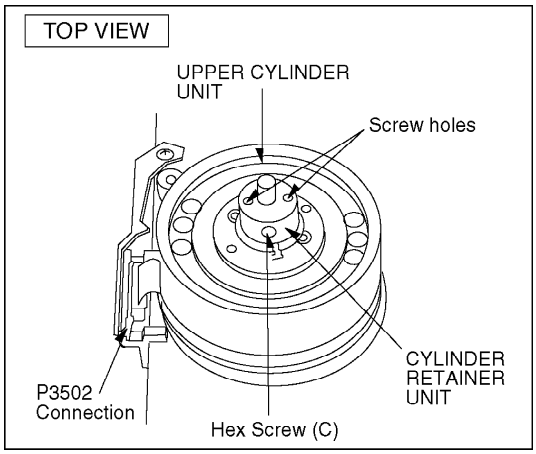
3. UPPER CYLINDER ASSEMBLY

When reassembling, perform the steps in the reverse order.

Notes:

1. **Install the Cylinder Retainer so that the 2 holes on top of the Cylinder Retainer are at right angles with the P3502 Connection.**
2. **Tighten the Hex screw (C) (1.5 mm) while pressing down on top of the Cylinder Retainer.**

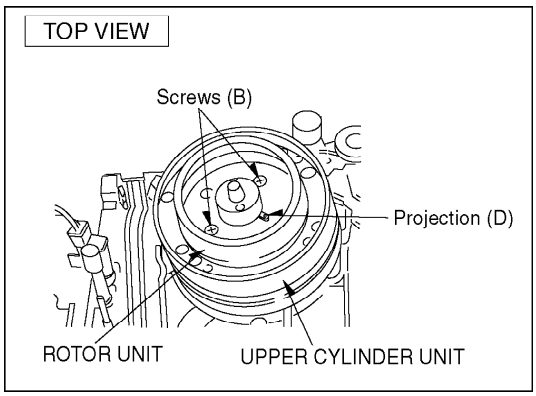
Fig. S5



3. Install the Cylinder Rotor Unit so that the inner hole of the Cylinder Rotor Unit fits to the small projection (D) on top of the Upper Cylinder.

4. Tighten 2 screws (B).

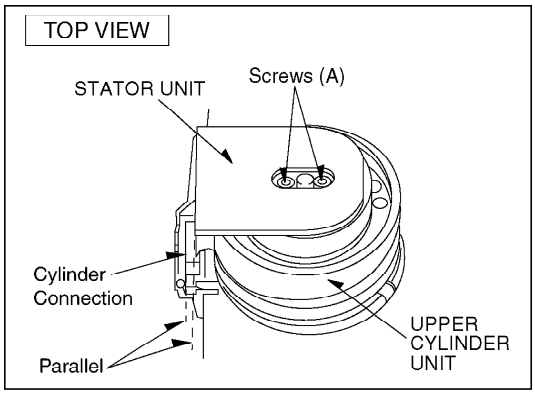
Fig. S6



5. install the Cylinder Stator Unit.

6. Tighten 2 screws (A).

Fig. S7



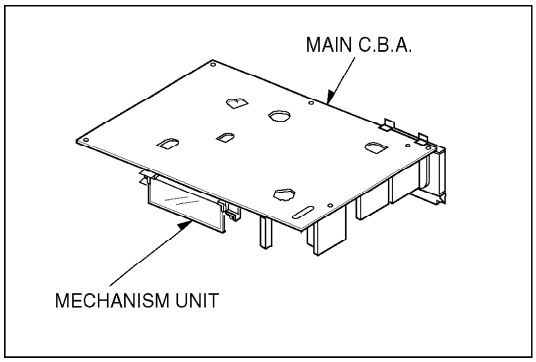
7. Confirm the PG SHIFTER ADJUSTMENT with the alignment tape

(PAL: VFJ8125H3F) and adjust it if necessary.

2.1.3. CHECKING OF MAIN C.B.A.

When servicing the MAIN C.B.A., take out the MAIN C.B.A. and mechanism from the frame and turn over.

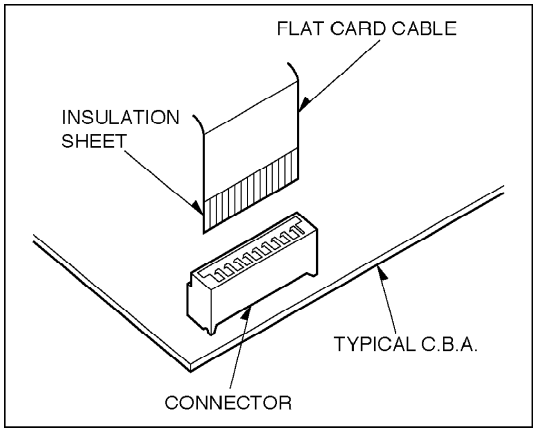
Fig. S8



2.1.4. FLAT CARD CABLE INSTALLATION

When installing the Flat Card Cable on the connector, install the Flat Card Cable with the cable contacts facing the connector contacts.

Fig. S9



2.2. REMOVAL OF CASSETTE TAPE

There are 2 ways to remove a cassette tape.

1. Service Information Display Operation

A. Press the FF and EJECT keys simultaneosly for 3 seconds and set the Service Mode 7.

B. Press STOP key in order to rotate the Loading Motor for unloading operation. (Pay an attention of tape slack)

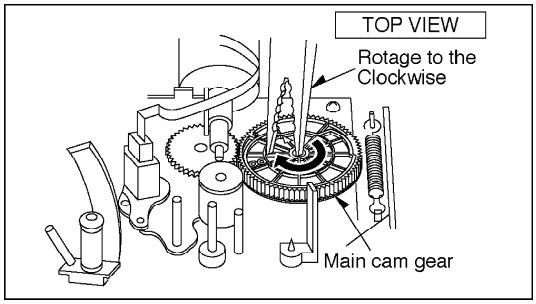
2. Manual Operation

A. Disconnect the AC Mains Lead and remove the Top Panel.

B. Rotate the Main Cam Gear clockwise until the Loading Posts

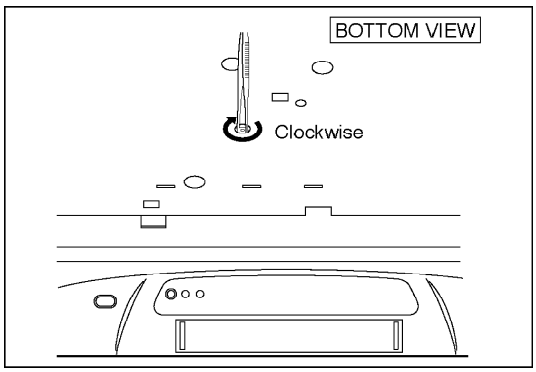
move to fully unloaded position as shown in Fig.S10. (Tape is remaining)

Fig. S10



C. Rotate the Capstan Motor clockwise from the bottom side to take up the tape.

Fig. S11



D. Rotate the Main Cam Gear clockwise until the cassette tape is ejected.

2.3. INTRODUCTION OF VIDEO HEAD CLEANING CASSETTE / (POLISHING TYPE)

1. **We are pleased to introduce Panasonic Video Head Cleaning Cassette, VFK0923FT [for service purposes] and VFK0923FSE [for end users] for all VHS/SVHS VCP and VCR.**
2. **These cleaning cassettes are exclusive removing the hard and sticky clogging on video heads.**
3. **These improve the efficiency of video head cleaning service and shortening cleaning time for end users.**

VFK0923FT (For Service usage)	
Type of Cassette	**Full VHS Cassette**
Cleaning Time	**10 Seconds/Time**
Tape Length	**20 m**
Usability in a Path	**180 Times**

VFK0823FSE (For end users)	
Type of Cassette	**Full VHS Cassette**
Cleaning Time	**10 Seconds/Time**
Tape Length	**3.34 m**
Usability in a Path	**30 Times**

VFK0823FSE (For end users)

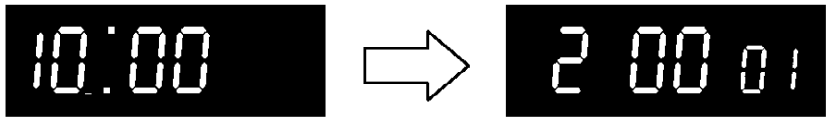
Note:

The tape material itself is the same in both types.

2.4. SELF-DIAGNOSIS RESULT DISPLAY

The "SELF-DIAGNOSIS RESULT DISPLAY & MEMORY function is built in this VTR.
It means that when the VCR detects undesirable condition, it can be displayed a “Error code (Two numbers from the left)” with Service Mode 2.
Since the "Error code" is stored in the EEPROM, it can be displayed although after disconnected the AC leads. It can be displayed with Service Mode 2.
(If a second error had been detected, only the most recent error is displayed.)
For more details, refer to the Service Manual for Z-Mechanism Chassis Order number VRD9612M129.

Displaying an Example



[Normal Indication]

[Error Code “01”]
(Service Mode 2)

INDICATION	CAUSE	REMEDY/CHECK
01	After cylinder lock is detected, the cylinder does not start rotating again even after tape unloading.	Check the cylinder motor drive circu
02	Cassette tape is not wound up during the tape unloading except EJECT mode.	Check the capstan motor drive circu
03	Mechanism locks during mode transition except EJECT mode.	1. Check the loading motor drive circuit. 2. Check the mechanism phase alignment. 3. Check the mode switch.
04	Mechanism locks during tape unloading.	1. Check the loading motor drive circuit. 2. Check the mechanism phase alignment.
06	Mechanism locks after tape unloading in EJECT mode.	1. Check the loading motor drive circuit. 2. Check the mechanism phase alignment for cass
07	During recording mode, recording signal is less than the normal condition.	Protection of the over-current flowin transistor which produces the powe for recording mode.
08	Recording circuit works except recording mode.	Check the recording circuit.
16	Cylinder lock detection.	Check the cylinder unit and the cylir drive circuit.
17	Supply reel mechanism lock detection	Check the supply reel mechanism ai supply reel circuit.
18	Take-up reel mechanism lock detection	Check the Take-up reel mechanism a Take-up reel circuit.
2*	PG shifter automatic adjustment error.	Check the servo/system control circ cylinder unit.

Fig. T1 Self-Test indication Display

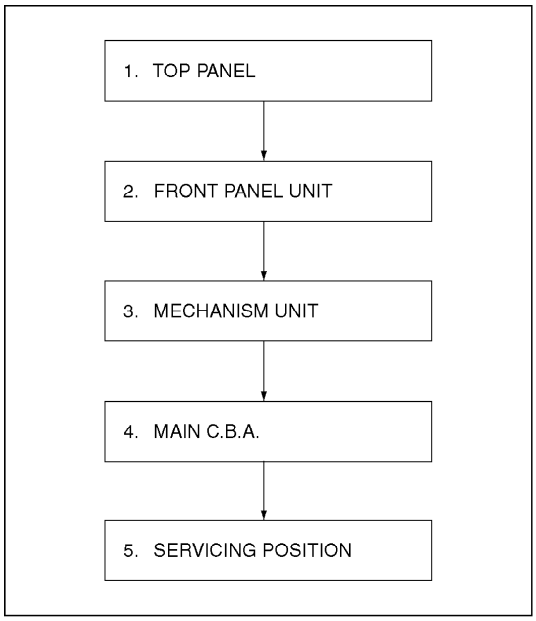
3. ADJUSTMENT PROCEDURES

3.1. DISASSEMBLY METHOD

3.1.1. DISASSEMBLY FLOW CHART

This flow chart indicates disassembly steps of the cabinet parts and the circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

Fig. D1

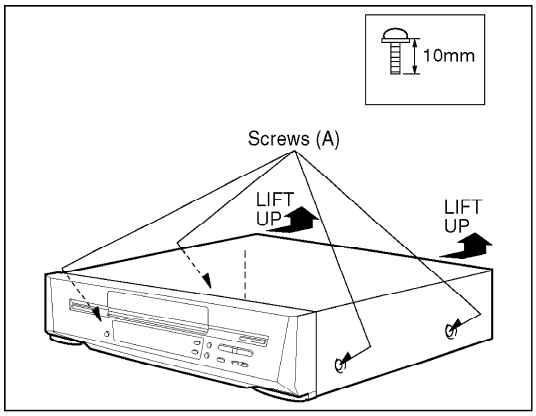


3.1.2. DETAIL OF DISASSEMBLY METHOD

1. REMOVAL OF THE TOP PANEL

Remove	**4 Screws (A)**

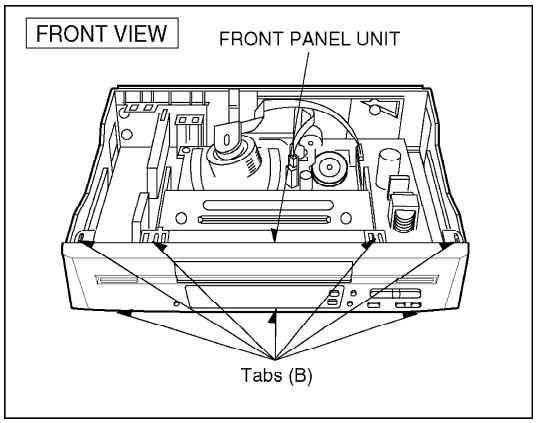
Fig.D2



2. REMOVAL OF THE FRONT PANEL UNIT

Unlock	**7 Tabs (B)**

Fig. D3



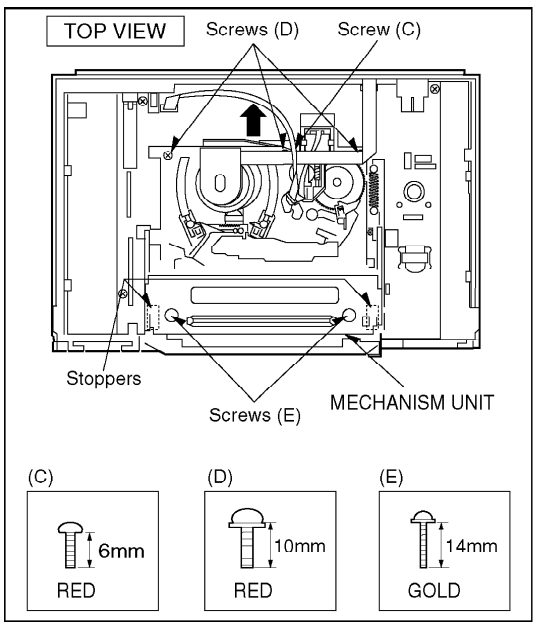
3. REMOVAL OF THE MECHANISM UNIT

Remove	**Screw (C)**
Remove	**3 Screws (D)**
Remove	**2 screw (E)**

Note:

1. **Keep pressing 2 stoppers on Cassette Holder Plate and Press Cassette Holder Plate to the rear.**
2. **Remove the Mechanism Unit after bend the Cylinder Shield in the direction of the arrow.**

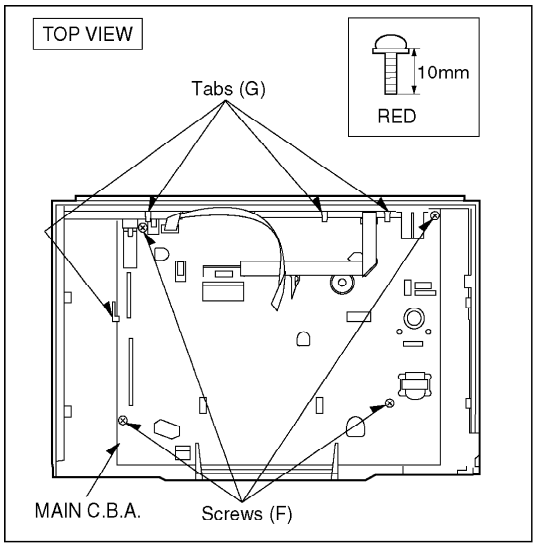
Fig. D4



4. REMOVAL OF THE MAIN C.B.A.

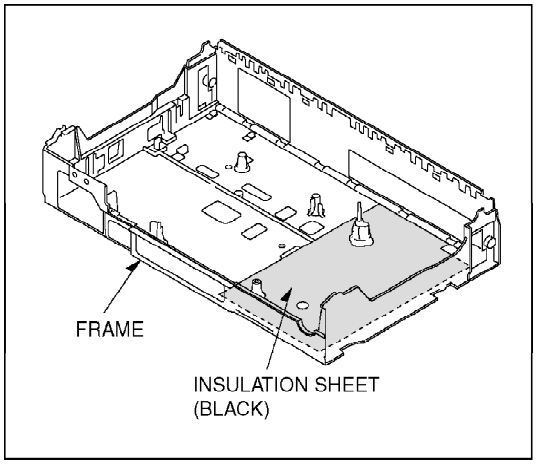
Remove	**4 screws (F)**
Unlock	**4 Tabs (G)**

Fig. D5



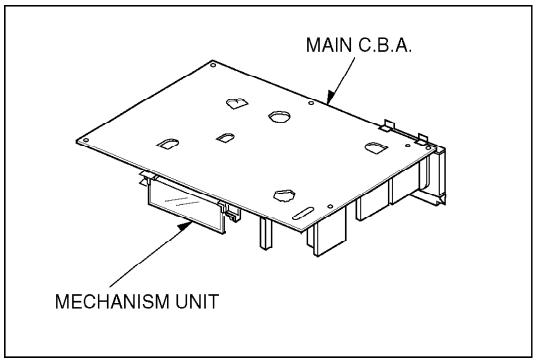
NOTE:
Before mounting the MAIN C.B.A. onto the frame, be sure to confirm that the insulation sheet is mounted on the frame as shown in Fig. D6.

Fig. D6



5. SERVICING POSITION

Fig. D7



3.2. MECHANICAL ADJUSTMENT PROCEDURES

Refer to the Service Manual for Z-Mechanism Chassis. / (Order No. VRD9802005C2)

3.3. ELECTRICAL ADJUSTMENT PROCEDURES

3.3.1. TEST EQUIPMENT

The following equipments are required for Electrical Adjustments.

1. Dual-Trace Oscilloscope
   - Voltage Range: 0.005-5V/div
   - Frequency Range: DC-35MHz
   - Probes: 10:1 / 1:1
2. Frequency Counter
   - Frequency Range: 0-10MHz
   - Probes: 1:1
3. Universal Counter
4. Digital Volt Meter (D.V.M.)
5. Video Sweep Generator
6. Sinewave Generator
7. Video Pattern Generator
8. Monitor TV
9. DC Power Supply
10. VHS Blank Tape
11. VHS Alignment Tape
    - Parts No.: VFJ8125H3F(PAL)

3.3.2. VCR SETTING

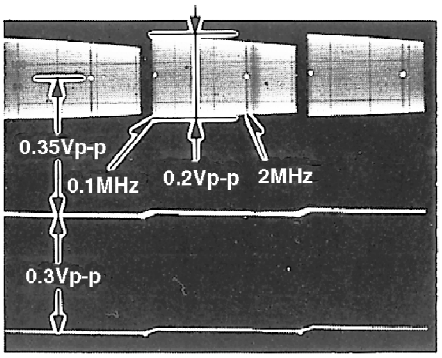
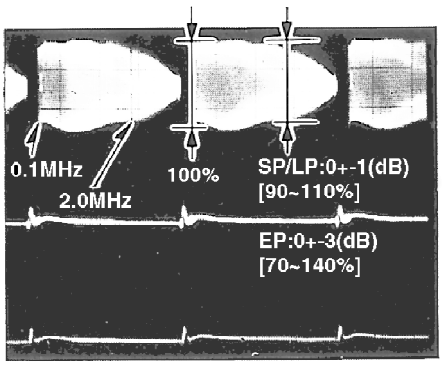
When no indication in the procedure, set each selector as follows.

1. TAPE SPEED: SP

2. CHANNEL: AV1/AV2
(Set to signal input terminal number)

3.3.3. ADJUSTMENTS

ITEM	TP	ADJ.	MODE	INPUT	TAPE	M. EQ.	SPEC.	REMAR
PG SHIFTER / ADJUSTMENT	---	---	PLAYBACK	---	ALIGNMENT TAPE / (PAL)	---	---	Refer to proced PG SHIFTER ADJUSTMENT in Fig.E3.
AI FUNCTION / ADJUSTMENT	---	---	PLAYBACK / (SELF-REC)	PAL / COLOUR / BAR	BLANK / TAPE	---	---	Refer to the pro of AI FUNCTIO ADJUSTMENT in Fig.E4.
VIDEO / FREQUENCY / RESPONSE / ADJUSTMENT	VIDEO OUT	---	SP/LP/EP / PLAYBACK / (SELF-REC)	VIDEO / SWEEP / (See Fig.E1)	BLANK TAPE	OSCILLO / SCOPE / / VIDEO SWEEP GENERATOR	SP: 0+-1 (dB) (90~110%) LP: 0+-1 (dB) (90~110%) EP: 0+-3 (dB) (70~140%) (See Fig. E2)	Refer to the pro of VIDEO FREQ RESPONSE ADJUSTMENT in Fig. E5.

Fig.E1	Fig.E2	
		
CONDITION: BURST SIGNAL OFF / 75 ohm TERMINATED		

3.3.4. PG SHIFTER ADJUSTMENT / (AUTOMATIC)

PROCEDURES	FIP DISPLAY
Press the FF and EJECT Keys simultaneously for 3 seconds.	
Press the FF and EJECT Keys simultaneously twice.	
Press the EJECT key for 3 seconds.	
Press the CH UP key once.	
Insert the Alignment cassette tape. (PAL:VFJ8125H3F)	
When the sequence of the automatical adjustment has been terminated, the following action has been made. *SUCCEED: The cassette tape is ejected. *ERROR : The "F2"is displayed on the FIP. (Check the Servo/Syscon circuit and Cylinder unit.)	
Release the Service mode by pressing the EJECT and FF keys simultaneously in 6 times until the FIP becomes normal indication.	

Fig. E3

3.3.5. AI FUNCTION ADJUSTMENT (AUTOMATIC)

PROCEDURES	FIP DISPLAY
Press the FF and EJECT Keys simultaneously for 3 seconds.	
Press the FF and EJECT Keys simultaneously twice.	
Press the EJECT key for 3 seconds.	
Press the CH UP key in 3 times.	
Insert the blank cassette tape. (The adjustment is automatically started.)	
When the sequence of the automatical adjustment has been terminated successfully, the VCR goes to STOP mode.	
Release the Service mode by pressing the EJECT and FF keys simultaneously in 6 times until the FIP becomes normal indication.	

Fig. E4

3.3.6. VIDEO FREQUENCY RESPONSE ADJUSTMENT

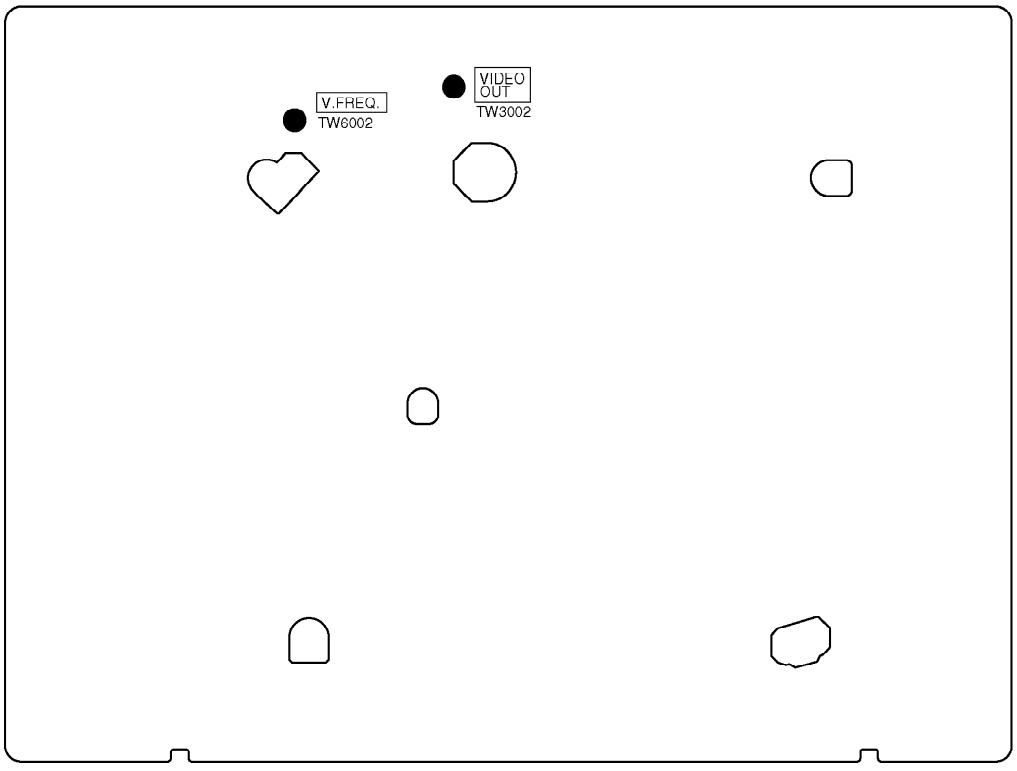
PROCEDURES	FIP DISPLAY
Input the Video sweep signal. (See Fig.E1)	
Press the FF and EJECT Keys simultaneously for 3 seconds.	
Press the FF and EJECT Keys simultaneously twice.	
Press the EJECT key for 3 seconds.	
Press the CH UP and/or CH DOWN key until "11" is displayed on FIP.	
Insert the Self-recorded tape and playback it. (SP/LP/EP mode)	

PROCEDURES	FIP DISPLAY
Connect the Oscilloscope to: ***CH1....Video Out (TW3002).** ***CH2....V.FREQ.(TW6002)**	
Press the "4" key on the remote controller. **(Confirm that TW6002 becomes high(5V)).**	
Adjust the Frequency response by pressing the "2"(increase) and/or "8"(decrease) key on the Remote Controller. (See Fig.E2)	
Store the Adjusted value by pressing the "5" key on the Remote Controller.	
Release the Service mode by pressing the EJECT and FF keys simultaneously in 6 times until the FIP becomes normal indication.	

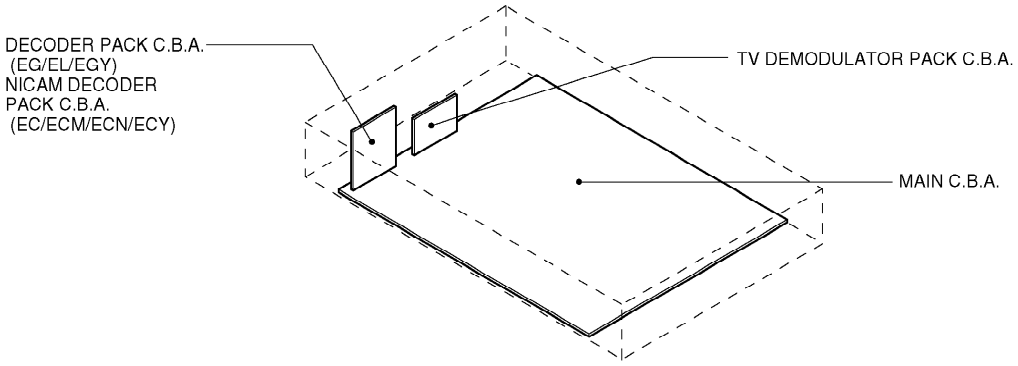
Fig. E5

3.3.7. LOCATION OF TEST POINTS & CONTROLS

MAIN C.B.A.



3.3.8. CIRCUIT BOARD LAYOUT



4. ABBREVIATIONS

5. INPUT/OUTPUT CHART

5.1. INPUT/OUTPUT CHART FOR IC6001

Fig. MP1

Fig. MP2

Fig. MP3

Fig. MP4

5.2. TRUTH TABLE

6. WAVEFORM TABLE & VOLTAGE CHART

6.1. WAVEFORM TABLE

6.2. VOLTAGE CHART

7. BLOCK DIAGRAMS

7.1. SYSTEM CONTROL & SERVO BLOCK DIAGRAM

7.2. LUMINANCE & CHROMINANCE BLOCK DIAGRAM

7.3. AUDIO BLOCK DIAGRAM

8. SCHEMATIC DIAGRAMS

8.1. POWER TRANSFORMER SECTION IN MAIN SCHEMATIC DIAGRAM

8.2. POWER SUPPLY/ RF SECTION IN MAIN SCHEMATIC DIAGRAM

8.3. TIMER SECTION IN MAIN SCHEMATIC DIAGRAM

8.4. SYSTEM CONTROL & SERVO SECTION IN MAIN SCHEMATIC DAIGRAM

8.5. LUMINANCE & CHROMINANCE/ AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM

8.6. Hi-Fi AUDIO SECTION IN MAIN SCHEMATIC DIAGRAM

8.7. INPUT/ OUTPUT SECTION IN MAIN SCHEMATIC DIAGRAM

8.8. TV DEMODULATOR PACK SCHEMATIC DIAGRAM

8.9. DECODER PACK SCHEMATIC DIAGRAM (NV-FJ614EG, FJ613EL /EGY)

8.10. NICAM DECODER PACK SCHEMATIC DIAGRAM (NV-FJ613EC/ ECM/ECN/ECY)

8.11. CYLINDER STATOR UNIT SCHEMATIC DIAGRAM

8.12. CAPSTAN UNIT SCHEMATIC DIAGRAM

9. CIRCUIT BOARD ASSEMBLIES

9.1. DECODER PACK C.B.A. (NV-FJ614EG,FJ613EL/ECY)

9.2. NICAM DECODER PACK C.B.A. (NV-FJ613EC/ECM/ECN/ECY)

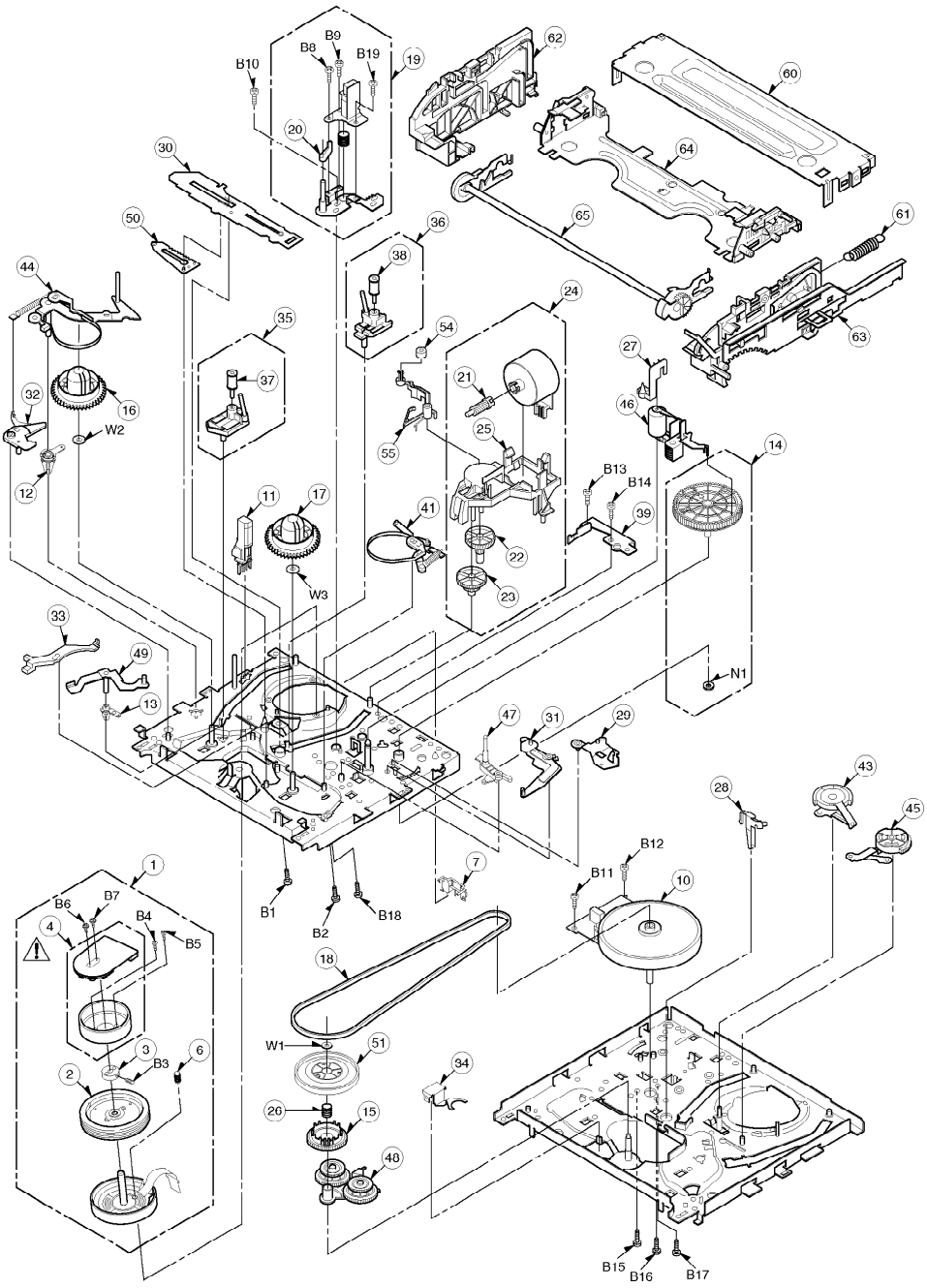
9.3. MAIN C.B.A.

9.4. CYLINDER STATOR UNIT

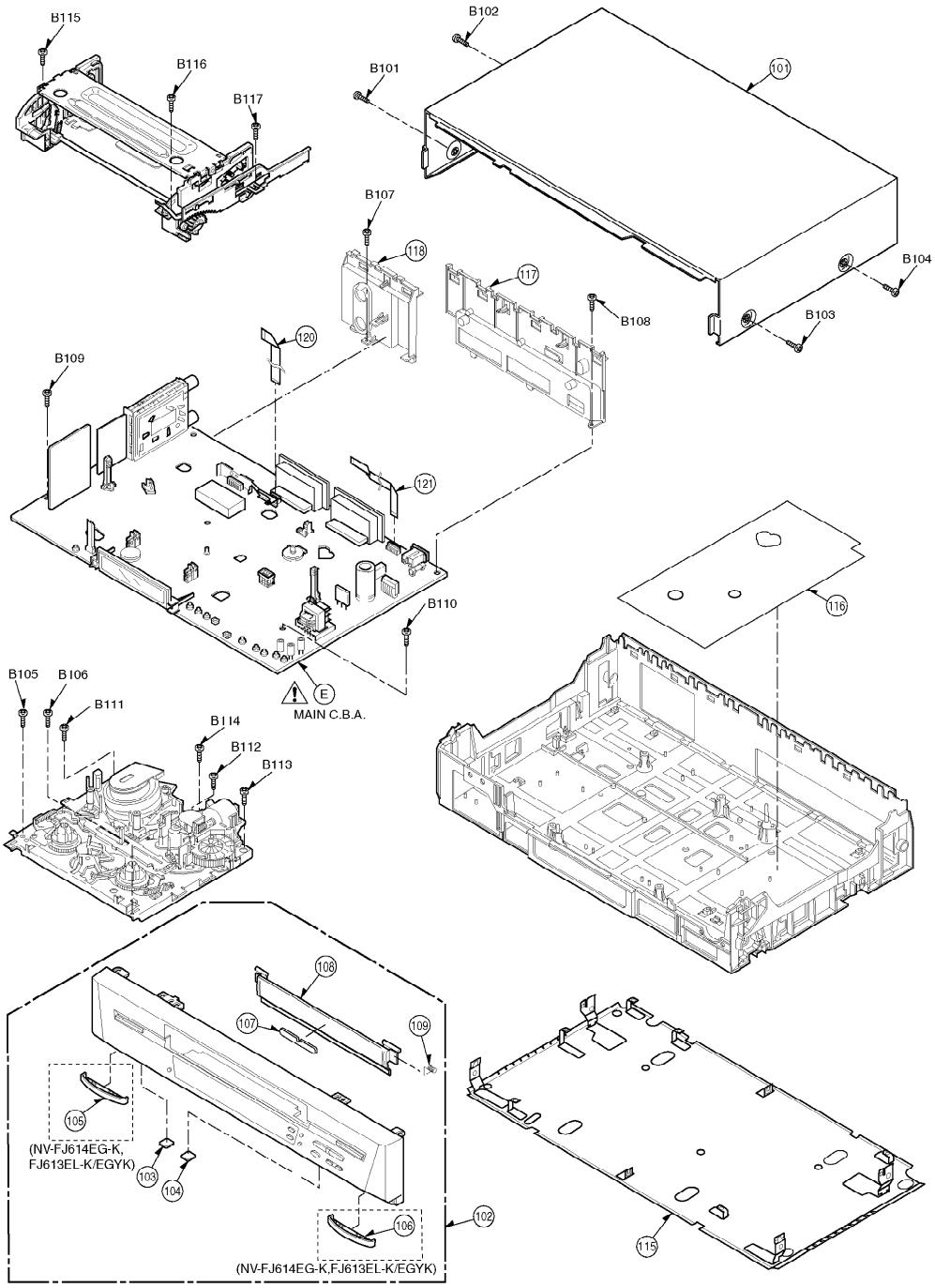
9.5. TV DEMODULATOR PACK C.B.A.

10. EXPLODED VIEWS

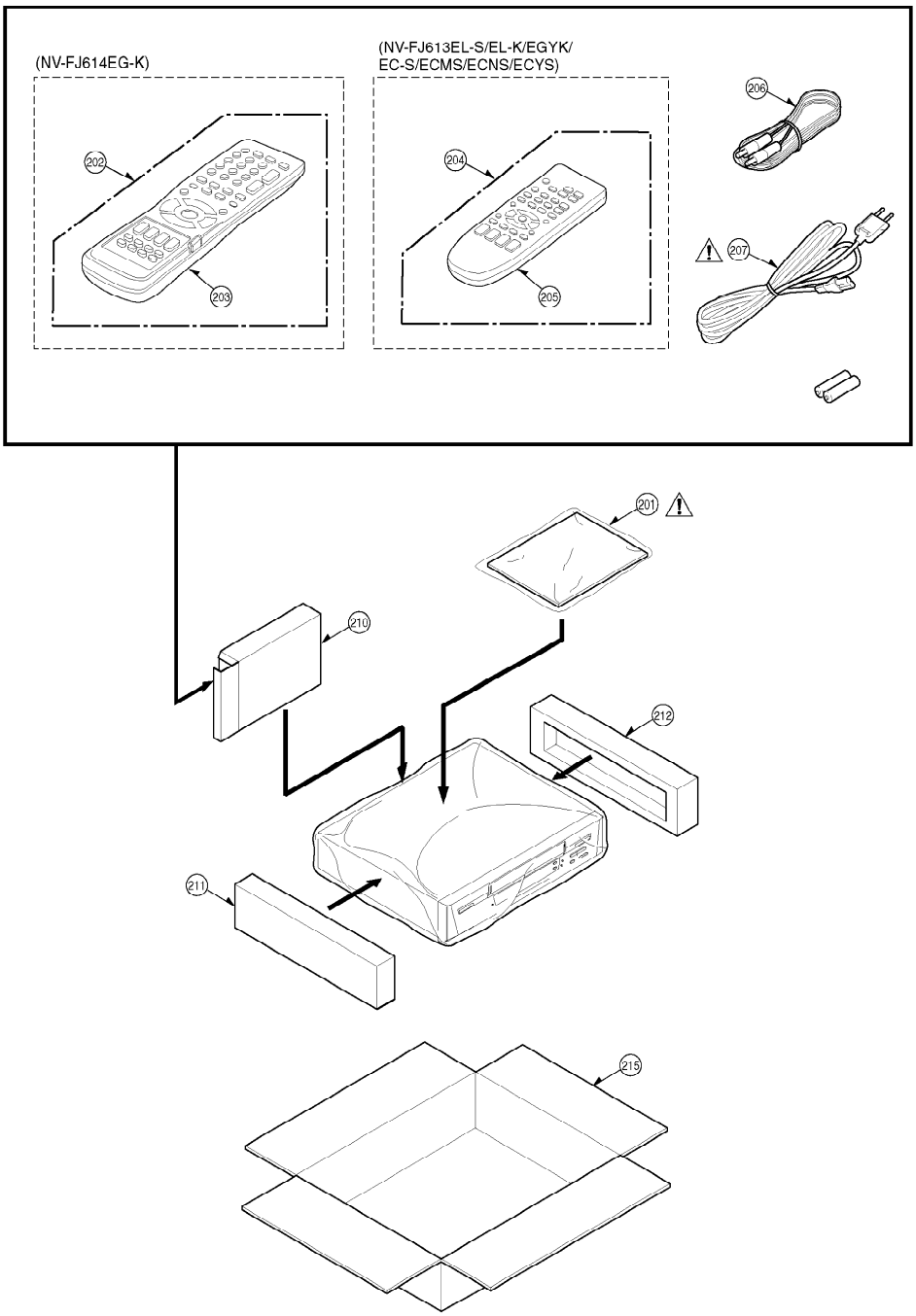
10.1. CHASSIS PARTS SECTION



10.2. CASING PARTS SECTION



10.3. PACKING PARTS SECTION



11. REPLACEMENT PARTS LIST

11.1. CHASSIS PARTS SECTION PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks
1	VEG1522	CYLINDER UNIT	[SUPPLIED FROM MBV]
2	VXP2001	UPPER CYLINDER UNIT	[SUPPLIED FROM MBV]
3	VDB1256	CYLINDER RETAINER	
4	VEM0715	CYLINDER MOTOR UNIT	⚠
6	VXS0135	EARTH BRUSH UNIT	
7	VMD3795	FLAT CABLE HOLDER	[SUPPLIED FROM MBV]
10	VEK9069	CAPSTAN UNIT	
11	L1AZ00000004	FE HEAD	L1AZ00000004
12	VDB1431	TENSION ARM BOSS	
13	VDB1460	SUPPLY BRAKE ARM BOSS	
14	VDG1220KIT	MAIN CAM GEAR	
15	VDG1221	CONVERSION GEAR	
16	VDR0350	REEL TABLE	
17	VDR0350	REEL TABLE	
18	VDV0382	CAPSTAN BELT	
19	VED0412	A/C HEAD UNIT	
20	VMX2656	P4 CAP	
21	VDG1217	WORM GEAR	
22	VDG1218	WORM WHEEL GEAR	
23	VDG1219	CENTRE GEAR	
24	VEM0604	LOADING MOTOR UNIT	
25	VMD2619	MOTOR BRACKET	
26	VMB3045	CONVERSION GEAR SPRING	
27	VMD2620	OPENER PIECE	
28	VMD2738	LED PRISM	
29	VML3165	DRIVE RACK ARM	
30	VML3166	MAIN LEVER	
31	VML3167	DRIVE MAIN LEVER ARM	
32	VML3172	SUPPLY SPRING ARM	
33	VML3176	CONVERSION LEVER A	
34	VML3177	CONVERSION LEVER B	
35	VXA6040	INCLINED BASE (S) UNIT	
36	VXA5854	INCLINED BASE (T) UNIT	
37	VXP1891	ROLLER POST	
38	VXP1891	ROLLER POST	
39	VMA9672	SUPPORT ANGLE	
41	VXL2667	TAKE UP BRAKE ARM UNIT	
43	VXL2670	TAKE UP LOADING ARM UNIT	
44	VXL2793	TENSION ARM UNIT	[SUPPLIED FROM MBV]
45	VXL2672	SUPPLY LOADING ARM UNIT	
46	VXL2785	PINCH ARM UNIT	
47	VXL2996	P5 ARM UNIT	
48	VXL2792	IDLER ARM UNIT	
49	VXL2733	SUPPLY BRAKE ARM UNIT	
50	VXL2747	LOADING RACK UNIT	
51	VXP2035	CENTRE CLUTCH UNIT	
54	VDP1668-K	CLEANER ROLLER	
55	VML3164	CLEANER ARM	
60	VMA9516	TOP PLATE	
61	VMB3047	CONNECTION SPRING	
62	VMD3379	SIDE PLATE (L)	[SUPPLIED FROM MBV]
63	VXA6540	SIDE PLATE (R) UNIT	
64	VXA5746	CASSETTE HOLDER UNIT	
65	VXP1730	MAIN SHAFT UNIT	

Ref. No.	Part No.	Part Name & Description	Remarks
B1	VHD1117	SCREW	
B2	VHD1117	SCREW	
B3	VHD0842	SCREW	
B4	VHD0843	SCREW	
B5	VHD0843	SCREW	
B6	VHD0844	SCREW	
B7	VHD0844	SCREW	
B8	VHD1066	SCREW	
B9	VHD1066	SCREW	
B10	VHD1044	SCREW	
B11	VHD1060	SCREW	
B12	VHD1071	SCREW	
B13	XTS26+6F	SCREW	
B14	XTN26+6F	SCREW	
B15	XTN26+7J	SCREW	
B16	XTN26+7J	SCREW	
B17	XTN26+7J	SCREW	
B18	VHD1095	SCREW	
B19	VHD1185	SCREW	
N1	VHN0311	PUSH NUT	
W1	VMX2208	WASHER	
W2	VMX3022	WASHER	
W3	VMX3022	WASHER	

11.2. CASING PARTS SECTION PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks
101	VGM1748	TOP PANEL	[SUPPLIED FROM MBV]NV-FJ614EG-K,NV-FJ613EGYK/EL-K
	VGM1733	TOP PANEL	[SUPPLIED FROM MBV]NV-FJ613EL-S/EC-S/ECMS/ECNS/ECYS
102	VYP8025	FRONT PANEL UNIT	[SUPPLIED FROM MBV]NV-FJ614EG-K
	VYP8201	FRONT PANEL UNIT	[SUPPLIED FROM MBV]NV-FJ613EGYK/EL-K
	VYP8024	FRONT PANEL UNIT	[SUPPLIED FROM MBV]NV-FJ613EL-S
	VYP8026	FRONT PANEL UNIT	[SUPPLIED FROM MBV]NV-FJ613EC-S/ECMS/ECNS/ECYS
103	RKA0072-K	FOOT	
104	RKA0072-K	FOOT	
105	VKA0191	LEG	NV-FJ614EG-K,NV-FJ613EGYK/EL-K
106	VKA0191	LEG	NV-FJ614EG-K,NV-FJ613EGYK/EL-K
107	VGB0554	SUPER DRIVE BADGE	[SUPPLIED FROM MBV]
108	VKF3321	BLINDER PANEL	[SUPPLIED FROM MBV]NV-FJ614EG-K,NV-FJ613EGYK/EL-K
	VKF3320	BLINDER PANEL	[SUPPLIED FROM MBV]NV-FJ613EL-S/EC-S/ECMS/ECNS/ECYS
109	VMB2521	BLINDER SPRING	
115	VKU0575	BOTTOM PLATE	[SUPPLIED FROM MBV]
116	VMZ3099	VO SHEET	[SUPPLIED FROM MBV]
117	VJH1176	AV JACK PLATE	[SUPPLIED FROM MBV]NV-FJ614EG-K,NV-FJ613EGYK/EL-S/EL-K

Ref. No.	Part No.	Part Name & Description	Remarks
	VJH1175	AV JACK PLATE	[SUPPLIED FROM MBV]NV-FJ613EC-S/ECMS/ECNS/ECYS
118	VJH1174	ANT JACK PLATE	[SUPPLIED FROM MBV]
120	VWJ1461	FLAT CARD CABLE (6P)	[SUPPLIED FROM MBV]P4003-A/C HEAD
121	VWJ1282	FLAT CARD CABLE (9P)	[SUPPLIED FROM MBV]P2502-P2901
B101	XTW3+10TFZ	SCREW	NV-FJ614EG-K,NV-FJ613EGYK/EL-K
	XTW3+10TFC	SCREW	NV-FJ613EL-S/EC-S/ECMS/ECNS/ECYS
B102	XTW3+10TFZ	SCREW	NV-FJ614EG-K,NV-FJ613EGYK/EL-K
	XTW3+10TFC	SCREW	NV-FJ613EL-S/EC-S/ECMS/ECNS/ECYS
B103	XTW3+10TFZ	SCREW	NV-FJ614EG-K,NV-FJ613EGYK/EL-K
	XTW3+10TFC	SCREW	NV-FJ613EL-S/EC-S/ECMS/ECNS/ECYS
B104	XTW3+10TFZ	SCREW	NV-FJ614EG-K,NV-FJ613EGYK/EL-K
	XTW3+10TFC	SCREW	NV-FJ613EL-S/EC-S/ECMS/ECNS/ECYS
B105	VHD0168	SCREW	
B106	VHD0168	SCREW	
B107	VHD1092	SCREW	
B108	VHD1092	SCREW	
B109	VHD1092	SCREW	
B110	VHD1092	SCREW	
B111	VHD1092	SCREW	
B112	VHD1092	SCREW	
B113	VHD1092	SCREW	
B114	XTV26+6JFR	SCREW	
B115	XTV26+8FR	SCREW	
B116	XTV26+8FR	SCREW	
B117	XTV26+8FR	SCREW	

11.3. PACKING PARTS SECTION PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks
201	VQT9003	OPERATING INSTRUCTIONS(GERMAN)	⚠ [SUPPLIED FROM MBV]NV-FJ614EG-K,NV-FJ613EL-S/EGYK/ECMS
	VQT9007	OPERATING INSTRUCTIONS(DUTCH)	⚠ [SUPPLIED FROM MBV]NV-FJ614EG-K,NV-FJ613ECMS
	VQT9004	OPERATING INSTRUCTIONS(FRENCH)	⚠ [SUPPLIED FROM MBV]NV-FJ613EL-S/EGYK/ECMS
	VQT9006	OPERATING INSTRUCTIONS(ITALIAN)	⚠ [SUPPLIED FROM MBV]NV-FJ613EL-S/EGYK
	VQT9013	OPERATING INSTRUCTIONS(GREEK)	⚠ [SUPPLIED FROM MBV]NV-FJ613EL-S/EL-K
	VQT9002	OPERATING INSTRUCTIONS(ENGLISH)	⚠ [SUPPLIED FROM MBV]NV-FJ613EGYK/ECYS/ECNS
	VQT9005	OPERATING INSTRUCTIONS(SPANISH)	⚠ [SUPPLIED FROM MBV]NV-FJ613EC-S
	VQT9008	OPERATING INSTRUCTIONS(SWEDISH)	⚠ [SUPPLIED FROM MBV]NV-FJ613EC-S/ECNS/ECYS
	VQT9011	OPERATING INSTRUCTIONS(FINNISH)	⚠ [SUPPLIED FROM MBV]NV-FJ613EC-S/ECNS/ECYS
	VQT9012	OPERATING INSTRUCTIONS(PORTUGUESE)	⚠ [SUPPLIED FROM MBV]NV-FJ613EC-S

Ref. No.	Part No.	Part Name & Description	Remarks
	VQT9009	OPERATING INSTRUCTIONS(DANISH)	⚠ [SUPPLIED FROM MBV]NV-FJ613ECNS/ECYS
202	N2QAKB000001	REMOTE CONTROLLER	[SUPPLIED FROM MBV]NV-FJ614EG-K N2QAKB000001
203	R0186-720010	BATTERY COVER	[SUPPLIED FROM MBV]NV-FJ614EG-K
204	N2QAHB000007	REMOTE CONTROLLER	[SUPPLIED FROM MBV]NV-FJ613EL-S/EL-K/EGYK/EC-S/ECMS/ECNS/ECYS N2QAHB000007
205	R0185-720010	BATTERY COVER	[SUPPLIED FROM MBV]NV-FJ613EL-S/EL-K/EGYK/EC-S/ECMS/ECNS/ECYS
206	VJA1089	DIN RF CABLE	K1TWACC00001
207	VJA1023	AC CORD	⚠ [SUPPLIED FROM MBV]
210	VPK2246	ACCESSORIES PACKING	[SUPPLIED FROM MBV]
211	VPN5491	CUSHION (L)	[SUPPLIED FROM MBV]
212	VPN5492	CUSHION (R)	[SUPPLIED FROM MBV]
215	VPG0H42	PACKING	[SUPPLIED FROM MBV]NV-FJ614EG-K,NV-FJ613EGYK/EL-K
	VPG0H43	PACKING	[SUPPLIED FROM MBV]NV-FJ613EL-S/EC-S/ECMS/ECNS/ECYS
		SERVICE FIXTURES & TOOLS	
	VFJ8125H3F	VHS ALIGNMENT TAPE (PAL)	
	VFK0335	RETAINING RING REMOVER (3mm/4mm)	
	VFK0329	POST ADJUSTMENT SCREWDRIVER	
	VFK0326	HEX WRENCH SET	
	VFK0132	BACK TENSION METER	
	VFK27	HEAD CLEANING STICK	
	VFK1024	MOLYTONE GREASE	
	VFK0330	FINE ADJUSTMENT GEAR DRIVER	
	VFK1301	SILICONE GREASE	

11.4. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks
■	VEP06D85K	MAIN C.B.A.	(RTL)[SUPPLIED FROM MBV]NV-FJ614EG-K,NV-FJ613EL-S/EL-K
			THE FOLLOWING C.B.A.S ARE INCLUDED IN MAIN C.B.A.
			VEP07A16A,VEP07A23L
■	VEP06E00G	MAIN C.B.A.	(RTL)[SUPPLIED FROM MBV]NV-FJ613EGYK
			THE FOLLOWING C.B.A.S ARE INCLUDED IN MAIN C.B.A.
			VEP07A16A,VEP07A23L
■	VEP06D85L	MAIN C.B.A.	(RTL)[SUPPLIED FROM MBV]NV-FJ613EC-S/ECNS/ECMS
			THE FOLLOWING C.B.A.S ARE INCLUDED IN MAIN C.B.A.
			VEP07A18J,VEP07A23L
■	VEP06E00H	MAIN C.B.A.	(RTL)[SUPPLIED FROM MBV]NV-FJ613ECYS
			THE FOLLOWING C.B.A.S ARE INCLUDED IN MAIN C.B.A.
			VEP07A18J,VEP07A23L
■	VEP07A16A	DECODER PACK C.B.A.	(RTL)[SUPPLIED FROM MBV]NV-FJ614EG-K,NV-FJ613EGYK/EL-S/EL-K
			INCLUDED IN MAIN C.B.A.(VEP06D85K,VEP06E00G).
■	VEP07A18J	NICAM DECODER PACK C.B.A.	(RTL)[SUPPLIED FROM MBV]NV-FJ613EC-S/ECMS/ECNS/ECYS
			INCLUDED IN MAIN C.B.A.(VEP06D85L,VEP06E00H).
■	VEP07A23L	TV DEMODULATOR PACK C.B.A	(RTL)[SUPPLIED FROM MBV]
			INCLUDED IN MAIN C.B.A.(VEP06D85K/L,VEP06E00G/H).
■	----------	CYLINDER STATOR C.B.A.	INCLUDED IN CYLINDER UNIT(VEG1522).
■	----------	CAPSTAN DRIVE C.B.A.	INCLUDED IN CAPSTAN UNIT(VEK9069).
■	VEP06D85K	MAIN C.B.A.	(RTL)[SUPPLIED FROM MBV]NV-FJ614EG-K,NV-FJ613EL-S/EL-K
■	VEP06E00G	MAIN C.B.A.	(RTL)[SUPPLIED FROM MBV]NV-FJ613EGYK
■	VEP06D85L	MAIN C.B.A.	(RTL)[SUPPLIED FROM MBV]NV-FJ613EC-S/ECNS/ECMS
■	VEP06E00H	MAIN C.B.A.	(RTL)[SUPPLIED FROM MBV]NV-FJ613ECYS
C0701	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	
C0702	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	
C0703	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	
C0704	ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	
C0707	ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	
C0708	ECEA1HKAR47	E.CAPACITOR 50V 0.47U	
C0710	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C0711	ECEA1CKA220	E.CAPACITOR 16V 22U	
C0712	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C0713	ECEA0JKA331	E.CAPACITOR 6.3V 330U	
C0714	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	
C0715	ECUX1H030CCV	C.CAPACITOR CH 50V 3P	

Ref. No.	Part No.	Part Name & Description	Remarks
C0717	ECUM1H330GUV	C.CAPACITOR CH 50V 33P	
C0719	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	
C0721	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	
C0724	ECUX1H221KBV	C.CAPACITOR CH 50V 220P	
C1002	VCEA1ACB220	E.CAPACITOR 10V 22U	[SUPPLIED FROM MBV]
C1003	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C1004	VCEA1CCB470	E.CAPACITOR 16V 47U	
C1006	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C1007	ECEA1CGE100	E.CAPACITOR 16V 10U	
C1008	ECEA1HGE470	E.CAPACITOR 50V 47U	
C1010	VCEA1CCB470	E.CAPACITOR 16V 47U	
C1011	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C1013	VCEA1CCB100	E.CAPACITOR 16V 10U	
C1101	ECKMNA102MEV	CERAMIC CAPACITOR	⚠
C1102	ECQB1H103JF	P.CAPACITOR 50V 0.01U	
C1104	ECKMNA102MEV	CERAMIC CAPACITOR	⚠
C1106	ECKF1H102KB	C.CAPACITOR 50V 1000P	
C1107	ECKMNA102MEV	CERAMIC CAPACITOR	⚠
C1108	ECCZ3A680KGE	C.CAPACITOR 1KV 68P	⚠ [SUPPLIED FROM MBV]
C1109	ECKD2H103PU	C.CAPACITOR 500V 0.01U	
C1110	ECA1AHJ331	E.CAPACITOR 10V 330U	[SUPPLIED FROM MBV]
C1111	ECKF1H102KB	C.CAPACITOR 50V 1000P	
C1112	ECQB1H822JF	P.CAPACITOR 50V 8200P	
C1114	ECA1HHJ470	E.CAPACITOR 50V 47U	[SUPPLIED FROM MBV]
C1118	ECQU2A683MVA	P.CAPACITOR 100V 0.068U	[SUPPLIED FROM MBV]
C1120	ECEC2GG330	E.CAPACITOR 400V 33U	
C1122	ECKF1H121KB	C.CAPACITOR 50V 120P	
C1131	EEUFG1E821	E.CAPACITOR 25V 820P	[SUPPLIED FROM MBV]
C1132	ECA1EHJ331	E.CAPACITOR 25V 330U	[SUPPLIED FROM MBV]
C1134	EEUFG1A182	E.CAPACITOR 10V 1800P	[SUPPLIED FROM MBV]
C1135	ECA1AHJ331	E.CAPACITOR 10V 330U	[SUPPLIED FROM MBV]
C1136	ECKD2H101KB	C.CAPACITOR 500V 100P	
C1137	ECA1HHJ470	E.CAPACITOR 50V 47U	[SUPPLIED FROM MBV]
C1138	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C1139	ECKD2H221KB	C.CAPACITOR 500V 220P	
C1140	ECA1HHJ101	E.CAPACITOR 50V 100U	[SUPPLIED FROM MBV]
C1141	ECKF1H103ZF	C.CAPACITOR 50V 0.01U	
C1142	ECKD2H221KB	C.CAPACITOR 500V 220P	
C1143	EEUFG1A331	E.CAPACITOR 10V 330P	[SUPPLIED FROM MBV]
C1202	VCEA0JCB101	E.CAPACITOR 6.3V 100U	
C1204	VCEA1ACB220	E.CAPACITOR 10V 22U	[SUPPLIED FROM MBV]
C1205	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C1206	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C1207	VCEA0JCB470	E.CAPACITOR 6.3V 47U	
C1208	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C1502	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	
C2502	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C2505	ECUM1C563KBV	C.CAPACITOR CH 16V 0.056U	
C2506	ECUM1C563KBV	C.CAPACITOR CH 16V 0.056U	
C2507	ECUM1C563KBV	C.CAPACITOR CH 16V 0.056U	
C2508	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C2509	ECUM1C474ZFV	C.CAPACITOR CH 16V 0.47U	[SUPPLIED FROM MBV]
C2510	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	

Ref. No.	Part No.	Part Name & Description	Remarks
C2511	ECEA0JKN220	E.CAPACITOR 6.3V 22U	
C2512	VCEA1ECB4R7	E.CAPACITOR 25V 4.7U	
C2513	ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	
C2515	ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	
C2516	ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	
C2517	ECA0JHJ221	E.CAPACITOR 6.3V 220U	[SUPPLIED FROM MBV]
C2518	ECUM1H473ZFV	C.CAPACITOR CH 50V 0.047U	
C2519	VCEA1ECB470	E.CAPACITOR 25V 47U	
C2520	ECUM1E683KBN	C.CAPACITOR CH 25V 0.068U	
C2521	ECUM1C154KBN	C.CAPACITOR CH 16V 0.15U	
C2522	ECUM1C154KBN	C.CAPACITOR CH 16V 0.15U	
C2523	ECUM1C154KBN	C.CAPACITOR CH 16V 0.15U	
C2524	ECEA1VKN4R7	E.CAPACITOR 35V 4.7U	
C3002	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	
C3003	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	
C3004	VCEA1HCB010	E.CAPACITOR 50V 1U	
C3008	ECUX1H680JCV	C.CAPACITOR CH 50V 68P	
C3009	ECUX1H070DCV	C.CAPACITOR CH 50V 7P	
C3012	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	
C3013	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C3015	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C3016	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C3017	VCEA0JCB221	E.CAPACITOR 6.3V 220U	
C3018	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C3019	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C3020	VCEA1HCB010	E.CAPACITOR 50V 1U	
C3021	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	
C3022	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C3023	VCEA0JCB101	E.CAPACITOR 6.3V 100U	
C3024	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	
C3025	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	
C3028	VCEA0JCB470	E.CAPACITOR 6.3V 47U	
C3029	VCEA0JCB101	E.CAPACITOR 6.3V 100U	
C3030	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C3031	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C3032	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	
C3033	VCEA1HCBR47	E.CAPACITOR 50V 0.47U	
C3035	ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	
C3036	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C3037	VCEA0JCB221	E.CAPACITOR 6.3V 220U	
C3038	VCEA1ECB4R7	E.CAPACITOR 25V 4.7U	
C3039	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C3040	VCEA0JCB101	E.CAPACITOR 6.3V 100U	
C3041	VCEA1ACB220	E.CAPACITOR 10V 22U	[SUPPLIED FROM MBV]
C3042	ECUX1E223KBV	C.CAPACITOR CH 25V 0.022U	
C3043	VCEA1CCB100	E.CAPACITOR 16V 10U	
C3045	ECUX1H560JCV	C.CAPACITOR CH 50V 56P	
C3046	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C3047	ECYX1H821JCV	C.CAPACITOR CH 50V 820P	
C3048	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	
C3050	VCEA1ACB220	E.CAPACITOR 10V 22U	[SUPPLIED FROM MBV]
C3051	ECUX1H681JCV	C.CAPACITOR CH 50V 680P	
C3052	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	
C3053	ECUX1H680JCV	C.CAPACITOR CH 50V 68P	

Ref. No.	Part No.	Part Name & Description	Remarks
C3054	ECUX1H680JCV	C.CAPACITOR CH 50V 68P	
C3501	VCEA0JCC470	E.CAPACITOR 6.3V 47U	[SUPPLIED FROM MBV]
C3502	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	
C3503	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	
C3505	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	
C3506	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	
C3507	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	
C3508	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	
C3509	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	
C3510	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	
C3511	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	
C4001	ECUM1H222JN	C.CAPACITOR CH 50V 2200P	
C4002	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	
C4003	ECQB1H822JF	P.CAPACITOR 50V 8200P	
C4004	VCEA1ACB220	E.CAPACITOR 10V 22U	[SUPPLIED FROM MBV]
C4005	VCEA1HCB010	E.CAPACITOR 50V 1U	
C4006	ECUX1H272KBV	C.CAPACITOR CH 50V 2700P	
C4007	ECUM1H122JCN	C.CAPACITOR CH 50V 1200P	
C4008	VCEA1ECB4R7	E.CAPACITOR 25V 4.7U	
C4009	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	
C4010	ECUM1E273KBV	C.CAPACITOR CH 25V 0.027U	
C4011	ECUX1H153KBV	C.CAPACITOR CH 50V 0.015U	
C4013	ECUX1H153KBV	C.CAPACITOR CH 50V 0.015U	
C4014	VCEA1HCB010	E.CAPACITOR 50V 1U	
C4015	VCEA0JCB470	E.CAPACITOR 6.3V 47U	
C4016	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	
C4017	VCEA1ACB220	E.CAPACITOR 10V 22U	[SUPPLIED FROM MBV]
C4018	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	
C4019	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C4020	VCEA0JCB470	E.CAPACITOR 6.3V 47U	
C4026	VCEA1ACB220	E.CAPACITOR 10V 22U	[SUPPLIED FROM MBV]
C4027	VCEA1CCB100	E.CAPACITOR 16V 10U	
C4028	ECUX1E223KBV	C.CAPACITOR CH 25V 0.022U	
C4029	ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	
C4030	VCEA0JCB221	E.CAPACITOR 6.3V 220U	
C4031	ECQB1H223JF	P.CAPACITOR 50V 0.022U	
C4032	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	
C4033	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	
C4501	VCEA1CCB100	E.CAPACITOR 16V 10U	
C4502	VCEA1CCB100	E.CAPACITOR 16V 10U	
C4503	VCEA1CCB100	E.CAPACITOR 16V 10U	
C4504	ECQB1H473JF	P.CAPACITOR 50V 0.047U	
C4505	ECEA1AKS330	E.CAPACITOR 10V 33U	
C4506	VCEA1CCC100	E.CAPACITOR 16V 10U	[SUPPLIED FROM MBV]
C4507	ECEA1CKS220	E.CAPACITOR 16V 22U	
C4508	ECQB1H153JF	P.CAPACITOR 50V 0.015U	
C4509	ECUX1H333ZFV	C.CAPACITOR CH 50V 0.033U	
C4510	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C4511	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	
C4512	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	
C4513	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C4514	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C4515	ECEA0JKS101	E.CAPACITOR 6.3V 100U	
C4516	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	

Ref. No.	Part No.	Part Name & Description	Remarks
C4517	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	
C4518	ECUM1C224KBN	C.CAPACITOR CH 16V 0.22U	
C4519	ECQB1H153JF	P.CAPACITOR 50V 0.015U	
C4520	ECEA1CKA220	E.CAPACITOR 16V 22U	
C4521	VCEA1CCB100	E.CAPACITOR 16V 10U	
C4522	ECQB1H473JF	P.CAPACITOR 50V 0.047U	
C4523	ECEA1AKA330	E.CAPACITOR 10V 33U	
C4524	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	
C4525	VCEA0JCB101	E.CAPACITOR 6.3V 100U	
C4528	VCEA1CCB100	E.CAPACITOR 16V 10U	
C4529	VCEA1CCB100	E.CAPACITOR 16V 10U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4530	VCEA1CCB100	E.CAPACITOR 16V 10U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4531	VCEA1CCB100	E.CAPACITOR 16V 10U	
C4532	VCEA1CCB100	E.CAPACITOR 16V 10U	
C4533	VCEA1CCB100	E.CAPACITOR 16V 10U	
C4534	VCEA1ACB220	E.CAPACITOR 10V 22U	[SUPPLIED FROM MBV]
C4535	VCEA1CCB100	E.CAPACITOR 16V 10U	
C4536	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	
C4537	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	
C4538	VCEA1CCB470	E.CAPACITOR 16V 47U	
C4539	ECUX1H180JCV	C.CAPACITOR CH 50V 18P	
C4540	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4541	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4903	ECUX1H471KBV	C.CAPACITOR CH 50V 470P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4904	ECUX1H471KBV	C.CAPACITOR CH 50V 470P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4905	ECUX1H471KBV	C.CAPACITOR CH 50V 470P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4906	ECUX1H471KBV	C.CAPACITOR CH 50V 470P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4907	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4908	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4909	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	
C4910	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	
C4912	ECUX1H471KBV	C.CAPACITOR CH 50V 470P	
C4913	ECUX1H471KBV	C.CAPACITOR CH 50V 470P	
C4914	ECUX1H471KBV	C.CAPACITOR CH 50V 470P	
C4915	ECUX1H471KBV	C.CAPACITOR CH 50V 470P	
C4916	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4919	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4920	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4921	VCEA0JCB221	E.CAPACITOR 6.3V 220U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4923	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4925	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4926	VCEA0JCB221	E.CAPACITOR 6.3V 220U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4927	VCEA0JEC471	E.CAPACITOR 6.3V 470U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/EGYK
C4928	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4929	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4930	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4937	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4941	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4942	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C4946	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	
C6001	VCEA0JCB470	E.CAPACITOR 6.3V 47U	
C6002	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	
C6003	ECUX1H471JCV	C.CAPACITOR CH 50V 470P	

Ref. No.	Part No.	Part Name & Description	Remarks
C6004	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C6005	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C6008	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	
C6009	ECUX1H180JCV	C.CAPACITOR CH 50V 18P	
C6010	ECUX1H180JCV	C.CAPACITOR CH 50V 18P	
C6011	ECUX1H180JCV	C.CAPACITOR CH 50V 18P	
C6012	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	
C6013	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C6014	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	
C6015	VCEA1CCB100	E.CAPACITOR 16V 10U	
C6016	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C6017	ECUX1H681JCV	C.CAPACITOR CH 50V 680P	
C7301	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7301	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7302	ECEA1HKNR47	E.CAPACITOR 50V 0.47U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7302	VCEA0JAW101	E.CAPACITOR 6.3V 100U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7303	ECEA1HKNR47	E.CAPACITOR 50V 0.47U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7304	ECUM1H681JCN	C.CAPACITOR CH 50V 680P	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7304	VCEA0JAW101	E.CAPACITOR 6.3V 100U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7305	ECUM1H123KBN	C.CAPACITOR CH 50V 0.012U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7305	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7306	ECUM1H123KBN	C.CAPACITOR CH 50V 0.012U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7306	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7307	ECUM1H681JCN	C.CAPACITOR CH 50V 680P	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7307	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7308	ECEA1HKNR47	E.CAPACITOR 50V 0.47U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7308	ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7309	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7310	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7311	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7312	ECEA1CKA100	E.CAPACITOR 16V 10U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7312	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7313	ECEA1CKA100	E.CAPACITOR 16V 10U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7313	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7315	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7316	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7316	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7317	ECEA0JKA101	E.CAPACITOR 6.3V 100U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7317	VCEA1CAW100	E.CAPACITOR 16V 10U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7318	ECEA1CKA100	E.CAPACITOR 16V 10U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7318	VCEA0JAW470	E.CAPACITOR 6.3V 47U	NV-FJ613EC-S/ECNS/ECMS/ECYS

Ref. No.	Part No.	Part Name & Description	Remarks
C7319	ECEA1CKA470	E.CAPACITOR 16V 47U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7319	VCEA1CAW100	E.CAPACITOR 16V 10U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7320	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7320	VCEA1CAW100	E.CAPACITOR 16V 10U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7321	ECEA1HKAR47	E.CAPACITOR 50V 0.47U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7322	ECEA1HKNR47	E.CAPACITOR 50V 0.47U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7323	ECUM1H104KBN	C.CAPACITOR CH 50V 0.1U	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7324	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7325	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7326	ECUM1H152KBM	C.CAPACITOR CH 50V 1500P	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7327	ECUM1H152KBM	C.CAPACITOR CH 50V 1500P	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7328	ECUM1H152KBM	C.CAPACITOR CH 50V 1500P	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
C7341	ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7342	ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7501	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C7502	VCEA1HCB100	E.CAPACITOR 50V 10U	
C7503	ECUX1H120JCV	C.CAPACITOR CH 50V 12P	
C7504	VCEA0JCB101	E.CAPACITOR 6.3V 100U	
C7507	VCE0073	SUPER CAPACITOR	
C7508	VCEA0JCB221	E.CAPACITOR 6.3V 220U	
C7509	ECUX1C683ZFV	C.CAPACITOR CH 16V 0.068U	
C7510	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C7511	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C7601	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7602	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7603	VCEA0JCB101	E.CAPACITOR 6.3V 100U	
C7604	VCEA0JCB101	E.CAPACITOR 6.3V 100U	
C7607	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	
C7608	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	
C7609	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	
C7610	VCEA1HCB100	E.CAPACITOR 50V 10U	
C7611	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	
C7612	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C7614	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	
C7615	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	
C7616	VCEA0JCB101	E.CAPACITOR 6.3V 100U	
C7617	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	
C7620	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C7622	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7623	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7625	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7626	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	NV-FJ613EC-S/ECNS/ECMS/ECYS
C7703	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C7704	VCEA0JCB470	E.CAPACITOR 6.3V 47U	
C7707	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	
C7711	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	
C7712	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	

Ref. No.	Part No.	Part Name & Description	Remarks
C7713	VCEA0JCB470	E.CAPACITOR 6.3V 47U	
D0702	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	
D1002	1SS254	DIODE	B0AAED000003
D1003	MA4051N-H	DIODE	[SUPPLIED FROM MBV]
D1006	MA4051N-M	DIODE	
D1007	1SS254	DIODE	B0AAED000003
D1008	MA4130N-L	DIODE	
D1102	S1WBA80-4062	BRIDGE DIODE	B0EBKT000002
D1103	AP01C	DIODE	B0HADV000010
D1104	MA185	DIODE	
D1105	1SS254	DIODE	B0AAED000003
D1106	1SS254	DIODE	B0AAED000003
D1107	1SS254	DIODE	B0AAED000003
D1114	21DQ06FC4	DIODE	B0JAMG000013
D1118	ERG1SJ223	M.RESISTOR 1W 22K	
D1121	RL2ZP	DIODE	
D1123	ERA22-04	DIODE	
D1124	ERA22-04	DIODE	
D1125	11EQS06	DIODE	
D1130	MA7300B	DIODE	
D1201	MA4051N-M	DIODE	
D1202	1SS254	DIODE	B0AAED000003
D1501	SIR505S	DIODE	B3EA00000040
D2501	1SS254	DIODE	B0AAED000003
D2502	1SS254	DIODE	B0AAED000003
D2503	B0EAKL000031	DIODE	[SUPPLIED FROM MBV]
D2504	B0EAKL000031	DIODE	[SUPPLIED FROM MBV]
D3001	1SS254	DIODE	B0AAED000003
D4502	1SS254	DIODE	B0AAED000003
D4901	MA4051N-M	DIODE	
D4902	MA4051N-M	DIODE	
D4903	1SS254	DIODE	NV-FJ613EC-S/ECNS/ECMS/ECYS B0AAED000003
D4904	1SS254	DIODE	B0AAED000003
D7501	MA4220N-M	DIODE	[SUPPLIED FROM MBV]
D7503	RB441P	DIODE	
D7601	MA4300M	DIODE	
DP7501	A2BD00000040	DISPLAY TUBE	[SUPPLIED FROM MBV]
F1101	XBA2C16TB0	FUSE	⚠
FL7301	VLF0633	FILTER	NV-FJ613EC-S/ECNS/ECMS/ECYS
IC0701	LA75503	IC	
IC1101	C5HACZZ00002	IC	[SUPPLIED FROM MBV]
IC1102	UPC1093J	IC	
IC1501	RPI354N	IC	B3EZ00000001
IC1502	RPI354N	IC	B3EZ00000001
IC2501	AN3811NK	IC	
IC3001	AN3531NFBS	IC	
IC3501	AN3368SB	IC	
IC4501	AN3656NFBPTV	IC	[SUPPLIED FROM MBV]

Ref. No.	Part No.	Part Name & Description	Remarks
IC4901	LA73021M	IC	NV-FJ613EC-S/ECNS/ECMS/ECYS
IC6001	C2CBJG000139	IC	[SUPPLIED FROM MBV]
IC7301	TDA9873H	IC	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/EGYK
IC7301	TDA9874AH	IC	NV-FJ613EC-S/ECNS/ECMS/ECYS
IC7302	PST7043	IC	NV-FJ613EC-S/ECNS/ECMS/ECYS
IC7501	M35502AFP	IC	
IC7502	PNA4611M08VT	PHOTO DIODE	
IC7503	RN5VD28AA	IC	
IC7504	S80743AL	IC	C0EAH0000066
IC7702	M24C16-WBN6	IC	C3EAGC000015
IP1001	UNH000300A	IC PROTECTOR	⚠
IP1002	UNH001200A	IC PROTECTOR	⚠
IP1003	UNH000300A	IC PROTECTOR	⚠
IP1004	UNH000300A	IC PROTECTOR	⚠
IP1101	VSF0015A10	FUSE	⚠
JK4902	K1FB121B0003	SOCKET	[SUPPLIED FROM MBV]NV-FJ613EC-S/ECNS/ECMS/ECYS
JK4903	K1FB121B0003	SOCKET	[SUPPLIED FROM MBV]
K0703	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	
K0707	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	
K0709	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	
K3003	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
K3506	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
K3507	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
K3508	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
K3509	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
K4004	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
K4007	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
K4915	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/EGYK
K4916	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/EGYK
K7301	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	
K7302	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	NV-FJ613EC-S/ECNS/ECMS/ECYS
K7303	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	NV-FJ613EC-S/ECNS/ECMS/ECYS
K7501	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
K7603	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
K7605	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	
L0701	ELJNAR18JF	CHIP INDUCTOR	
L0703	ELJNA2R2JF	INDUCTOR 2.2UH	
L1107	ELF15N005A	LINE FILTER	⚠
L1108	ELF15N003A	LINE FILTER	⚠
L1121	VLQ0655K220	COIL 22UH	
L1122	G0A220G00018	COIL	[SUPPLIED FROM MBV]G0A220G00019
L1123	VLQ0599J101	COIL 100UH	
L1124	VLQ0599J101	COIL 100UH	
L2501	VLQ0599J680	COIL 68UH	
L3002	VLQ0599J220	COIL 22UH	

Ref. No.	Part No.	Part Name & Description	Remarks
L3005	VLQ0599J470	COIL 47UH	
L3006	VLQ0599J101	COIL 100UH	
L3007	VLQ0599J680	COIL 68UH	
L3008	VLQ0599J101	COIL 100UH	
L3009	VLQ0599J330	COIL 33UH	
L3010	VLQ0599J470	COIL 47UH	
L3011	VLQ0599J390	COIL 39UH	
L3012	VLQ0599J560	COIL 56UH	
L3501	VLQ0599J330	COIL 33UH	
L4001	ELELN153JA	INDUCTOR 15000UH	
L4003	VLQ0599J680	COIL 68UH	
L4502	VLQ0599J1R2	COIL 1.2UH	
L4503	VLQ0599J1R2	COIL 1.2UH	
L4504	VLQ0599J181	COIL 180UH	
L4901	VLQ0599JR22	COIL 0.22UH	
L4902	VLQ0599J680	COIL 68UH	NV-FJ613EC-S/ECNS/ECMS/ECYS
L4903	VLQ0599J680	COIL 68UH	NV-FJ613EC-S/ECNS/ECMS/ECYS
L6001	VLQ0599J101	COIL 100UH	
L7302	VLQ0599J1R0	COIL 1UH	NV-FJ613EC-S/ECNS/ECMS/ECYS
L7601	VLQ0599J330	COIL 33UH	
L7602	VLQ0599J330	COIL 33UH	
L7603	VLQ0599J330	COIL 33UH	
L7604	VLQ0599J330	COIL 33UH	
L7607	VLQ0599J100	COIL 10UH	
L7608	VLQ0599J2R2	COIL 2.2UH	NV-FJ613EC-S/ECNS/ECMS/ECYS
L7609	VLQ0599J100	COIL 10UH	
L7701	VLQ0599J680	COIL 68UH	
L7703	VLQ0599J680	COIL 68UH	
LB1105	VLP0056	FERRITE BEAD	
LB3501	VLP0147	COIL	
LB3502	VLP0147	COIL	
LB3503	VLP0147	COIL	
LB3504	VLP0147	COIL	
LB4903	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	NV-FJ613EC-S/ECNS/ECMS/ECYS
LB4904	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	NV-FJ613EC-S/ECNS/ECMS/ECYS
LB4905	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	
LB4906	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	
LB7301	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	NV-FJ613EC-S/ECNS/ECMS/ECYS
LB7303	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	NV-FJ613EC-S/ECNS/ECMS/ECYS
P1101	VJS3306	AC INLET	⚠ K2AA2G000002
P1501	VJS3837A002	CONNECTOR (FEMALE) 2P	K1KB02A00035
P2501	VJP3835A012	CONNECTOR (MALE) 12P	
P2502	VJS3537A009G	CONNECTOR (FEMALE) 9P	K1MN09A00012
P3502	VJS3537A010G	CONNECTOR (FEMALE) 10P	K1MN10A00036
P4002	VJS3837A002	CONNECTOR (FEMALE) 2P	K1KB02A00035
P4003	VJS3537A006G	CONNECTOR (FEMALE) 6P	K1MN06A00034
PK0701	VJR0826E009W	CONNECTOR (MALE) 9P	K1MR09A00028
PK7301	VJR0777B007W	CONNECTOR (MALE) 7P	K1MM07B00002
PK7302	VJR0777B006W	CONNECTOR (MALE) 6P	K1MM06B00002
PP0701	VJP3589A004B	CONNECTOR (MALE) 4P	

Ref. No.	Part No.	Part Name & Description	Remarks
Q0702	2SD601A-S	TRANSISTOR	
Q1002	2SD602A	TRANSISTOR	
Q1003	2SD1996-S	TRANSISTOR	
Q1004	2SD1996-S	TRANSISTOR	
Q1005	2SD602A-R	TRANSISTOR	
Q1006	2SD601A	TRANSISTOR	
Q1007	2SD1996-S	TRANSISTOR	
Q1008	2SB710A	TRANSISTOR	
Q1101	2SD1996-S	TRANSISTOR	
Q1102	2SB1030A	TRANSISTOR	
Q1111	PC123ZY2	PHOTO COUPLER	⚠ B3PBA0000078
Q1201	2SD1996-S	TRANSISTOR	
Q1202	2SD1996-S	TRANSISTOR	
Q1501	PNB2301MBV	TRANSISTOR	
Q1502	PNB2301MAV	TRANSISTOR	
Q4001	2SD601A	TRANSISTOR	
Q4002	2SD601A	TRANSISTOR	
Q4005	2SB710-R	TRANSISTOR	
Q4006	2SD602A-R	TRANSISTOR	
Q4901	2SD601A	TRANSISTOR	
Q4903	2SD601A	TRANSISTOR	NV-FJ613EC-S/ECNS/ECMS/ECYS
Q4904	2SB709A	TRANSISTOR	
Q7601	2SB709A	TRANSISTOR	
Q7705	2SD601A	TRANSISTOR	
QR1001	UN2112	TRANSISTOR	
QR1002	UN2211	TRANSISTOR	
QR1201	UN2212	TRANSISTOR-RESISTOR	
QR3501	UN2212	TRANSISTOR-RESISTOR	
QR3502	UN2212	TRANSISTOR-RESISTOR	
QR4001	UN2212	TRANSISTOR-RESISTOR	
QR4002	UN2211	TRANSISTOR	
QR4003	UN2111	TRANSISTOR	
QR4004	UN2215	TRANSISTOR-RESISTOR	
QR4005	UN2113	TRANSISTOR-RESISTOR	
QR4008	UN2215	TRANSISTOR-RESISTOR	
QR4009	UN2215	TRANSISTOR-RESISTOR	
QR4501	UN2216	TRANSISTOR	
QR4502	UN2216	TRANSISTOR	
QR4503	UN2216	TRANSISTOR	NV-FJ613EC-S/ECNS/ECMS/ECYS
QR4504	UN2216	TRANSISTOR	NV-FJ613EC-S/ECNS/ECMS/ECYS
QR4505	UN2113	TRANSISTOR-RESISTOR	
QR4506	UN2216	TRANSISTOR	
QR4507	UN2211	TRANSISTOR	
QR4903	UN2212	TRANSISTOR-RESISTOR	NV-FJ613EC-S/ECNS/ECMS/ECYS
QR4904	UN2215	TRANSISTOR-RESISTOR	
QR4905	UN2215	TRANSISTOR-RESISTOR	
QR6001	UN2215	TRANSISTOR-RESISTOR	
QR6006	UN2211	TRANSISTOR	
QR7501	UN2113	TRANSISTOR-RESISTOR	
QR7601	UN2215	TRANSISTOR-RESISTOR	
QR7602	UN2113	TRANSISTOR-RESISTOR	
QR7603	UN2215	TRANSISTOR-RESISTOR	
QR7604	UN2215	TRANSISTOR-RESISTOR	

Ref. No.	Part No.	Part Name & Description	Remarks
R0705	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	
R0707	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	
R0708	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	
R0711	ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	
R0713	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	
R0715	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	
R0717	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	
R0719	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	
R0725	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	
R0727	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	
R0729	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	
R0730	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	
R0740	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	
R0741	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	
R0742	ERJ8GEYJ151	M.RESISTOR CH 1/8W 150	
R0745	ERJ6GEYJ335	M.RESISTOR CH 1/10W 3.3M	
R1002	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	
R1003	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	
R1004	ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	
R1005	ERJ6GMYJ563	M.RESISTOR CH 1/10W 56K	
R1006	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R1007	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R1008	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	
R1009	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	
R1011	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	
R1012	ERDS2TJ182	C.RESISTOR 1/4W 1.8K	
R1017	ERDS2TJ272	C.RESISTOR 1/4W 2.7K	
R1023	ERDS2TJ822	C.RESISTOR 1/4W 8.2K	
R1025	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	
R1026	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R1027	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R1101	ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	
R1102	ERG1SJ223	M.RESISTOR 1W 22K	
R1103	ERDS2FJ123	C.RESISTOR 1/4W 12K	
R1104	ERDS2FJ123	C.RESISTOR 1/4W 12K	
R1105	ERDS2FJ105	C.RESISTOR 1/4W 1M	
R1106	ERDS2FJ105	C.RESISTOR 1/4W 1M	
R1107	ERDS2FJ104	C.RESISTOR 1/4W 100K	
R1108	ERDS2FJ123	C.RESISTOR 1/4W 12K	
R1109	ERDS2FJ152	C.RESISTOR 1/4W 1.5K	
R1110	ERDS2FJ123	C.RESISTOR 1/4W 12K	
R1111	ERDS2FJ471	C.RESISTOR 1/4W 470	
R1112	ERDS2FJ102	C.RESISTOR 1/4W 1K	
R1113	ERX1SJR68	M.RESISTOR 1W 0.68	
R1114	ERDS2FJ222	C.RESISTOR 1/4W 2.2K	
R1115	ERDS1TJ470	C.RESISTOR 1/2W 47	
R1116	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R1117	ERDS2FJ123	C.RESISTOR 1/4W 12K	
R1118	ERDS2FJ101	C.RESISTOR 1/4W 100	
R1119	ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	
R1120	ERJ6RBD222	M.RESISTOR CH 1/10W 2.2K	
R1121	ERJ6RBD272	M.RESISTOR CH 1/10W 2.7K	
R1123	ERDS2FJ222	C.RESISTOR 1/4W 2.2K	

Ref. No.	Part No.	Part Name & Description	Remarks
R1124	ERDS2FJ223	C.RESISTOR 1/4W 22K	
R1125	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	
R1126	ERDS2FJ123	C.RESISTOR 1/4W 12K	
R1204	ERDS2TJ102	C.RESISTOR 1/4W 1K	
R1501	ERDS2TJ121	C.RESISTOR 1/4W 120	
R1502	ERDS2TJ181	C.RESISTOR 1/4W 180	
R1503	ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	
R1504	ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	
R1505	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	
R2501	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
R2502	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R2503	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R2504	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R2505	ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	
R2506	ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	
R2507	ERJ6GMYJ274	M.RESISTOR CH 1/10W 270	
R2508	ERJ6GMYG433	M.RESISTOR CH 1/10W 43K	
R2509	ERDS2TJ331	C.RESISTOR 1/4W 330	
R2510	ERDS2TJ330	C.RESISTOR 1/4W 33	
R2511	ERDS2TJ330	C.RESISTOR 1/4W 33	
R2512	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R2513	ERDS1TJ1R5	C.RESISTOR 1/2W 1.5	
R2514	ERDS1TJ1R2	C.RESISTOR 1/2W 1.2	
R2515	ERDS2TJ330	C.RESISTOR 1/4W 33	
R3002	ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	
R3006	ERJ6GMYJ271	M.RESISTOR CH 1/10W 270	
R3007	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	
R3012	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	
R3015	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	
R3016	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	
R3017	ERJ6GMYJ122	M.RESISTOR CH 1/10W 1.2K	
R3018	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	
R3019	ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	
R3022	ERJ6GMYJ684	M.RESISTOR CH 1/10W 680K	
R3023	ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	
R3025	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
R3026	ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	
R3027	ERJ6GMYG271	M.RESISTOR CH 1/10W 270	
R3028	ERJ6GMYG102	M.RESISTOR CH 1/10W 1K	
R3029	ERJ6GMYG152	M.RESISTOR CH 1/10W 1.5K	
R3030	ERJ6GMYG331	M.RESISTOR CH 1/10W 330	
R3031	ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	
R3032	ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	
R3033	ERJ6GMYG152	M.RESISTOR CH 1/10W 1.5K	
R3034	ERJ6GMYK225	M.RESISTOR CH 1/10W 2.2M	
R3501	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	
R3502	ERJ6GMYJ392	M.RESISTOR CH 1/10W 3.9K	
R3503	ERJ6GMYG621	M.RESISTOR CH 1/10W 620	[SUPPLIED FROM MBV]
R3504	ERJ6GMYG391	M.RESISTOR CH 1/10W 390	
R3506	ER0S2CKG3900	M.RESISTOR 1/4W 390	
R4001	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R4002	ERJ6GMYJ334	M.RESISTOR CH 1/10W 330K	
R4003	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R4004	ERJ6GMYG241	M.RESISTOR CH 1/10W 240	

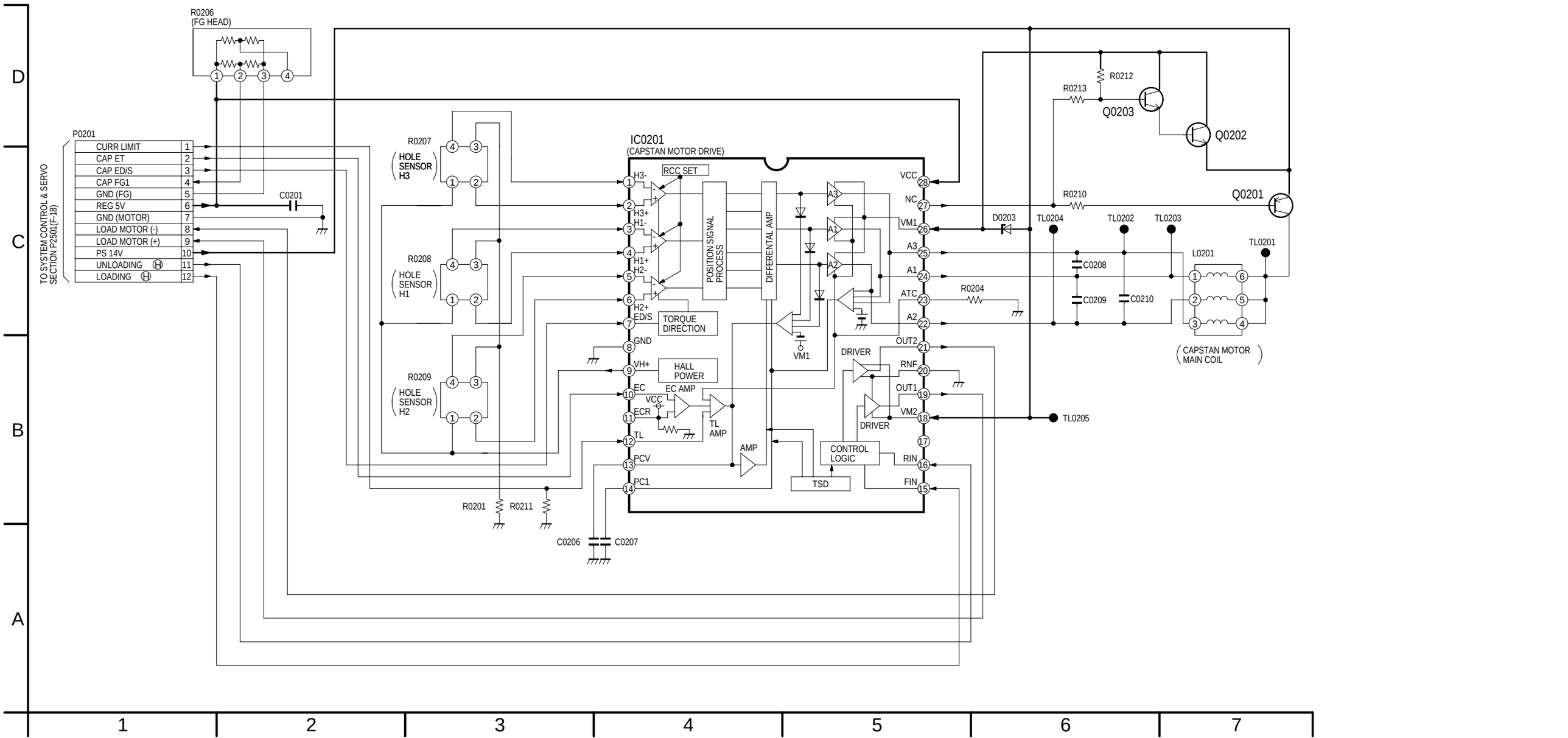
Ref. No.	Part No.	Part Name & Description	Remarks
R4005	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	
R4006	ERJ6GMYJ753	M.RESISTOR CH 1/10W 75K	
R4007	ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	
R4008	ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	
R4009	ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	
R4010	ERJ6GMYJ222	M.RESISTOR CH 1/10W 2.2K	
R4011	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	
R4013	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R4014	ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	
R4015	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	
R4016	ERJ6GMYK225	M.RESISTOR CH 1/10W 2.2M	
R4017	ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	
R4018	ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	
R4019	ERJ6GMYJ333	M.RESISTOR CH 1/10W 33K	
R4020	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	
R4021	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	
R4022	ERJ6GMYJ561	M.RESISTOR CH 1/10W 560	
R4026	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	
R4027	ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	
R4028	ERJ6GMYJ272	M.RESISTOR CH 1/10W 2.7K	
R4029	ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	
R4030	ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	
R4501	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4502	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4503	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4504	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4506	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	
R4509	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	
R4510	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R4511	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	
R4512	ERJ6GMYJ683	M.RESISTOR CH 1/10W 68K	
R4513	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R4514	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	
R4515	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	
R4516	ERJ6GMYJ511	M.RESISTOR CH 1/10W 510	
R4517	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	
R4518	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	
R4519	ERJ6GMYJ821	M.RESISTOR CH 1/10W 820	
R4520	ERJ6GMYJ124	M.RESISTOR CH 1/10W 120K	
R4521	ERJ6GMYJ511	M.RESISTOR CH 1/10W 510	
R4522	ERJ6GMYJ303	M.RESISTOR CH 1/10W 30K	
R4523	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	
R4524	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R4525	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R4527	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	
R4528	ERJ6GMYJ391	M.RESISTOR CH 1/10W 390	
R4529	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4530	ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4531	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4532	ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4533	ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	
R4534	ERJ6GMYJ104	M.RESISTOR CH 1/10W 100K	
R4535	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	
R4536	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	

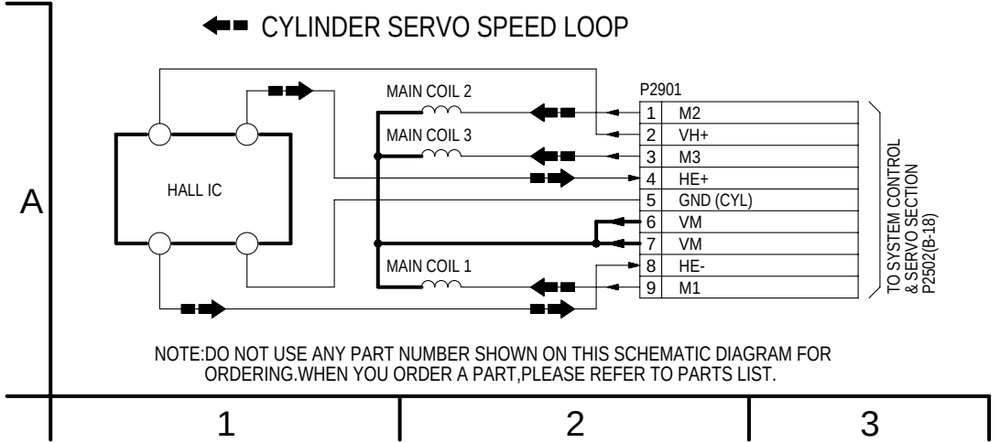
Ref. No.	Part No.	Part Name & Description	Remarks
R4537	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
R4538	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R4901	ERDS2TJ471	C.RESISTOR 1/4W 470	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R4902	ERDS2TJ471	C.RESISTOR 1/4W 470	
R4903	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4904	ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	
R4905	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4906	ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4908	ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4909	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	
R4910	ERJ6GMYJ474	M.RESISTOR CH 1/10W 470K	
R4911	ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4912	ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4913	ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	
R4914	ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	
R4915	ERDS2TJ471	C.RESISTOR 1/4W 470	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4916	ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	
R4918	ERJ6GMYJ331	M.RESISTOR CH 1/10W 330	
R4925	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R4926	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4927	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4928	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R4928	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4938	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4941	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4942	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	NV-FJ613EC-S/ECNS/ECMS/ECYS
R4945	ERJ6GMYJ153	M.RESISTOR CH 1/10W 15K	
R4946	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	
R6001	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	
R6002	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R6003	ERJ6GMYJ183	M.RESISTOR CH 1/10W 18K	
R6004	ERJ6GMYJ224	M.RESISTOR CH 1/10W 220K	
R6005	ERJ6GMZ0R00	M.RESISTOR CH 1/10W 0	
R6008	ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	
R6009	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	
R6011	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	
R6012	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	
R6013	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	
R6014	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	
R6015	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	
R6016	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R6017	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R6018	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R6019	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R6020	ERJ6GMYJ393	M.RESISTOR CH 1/10W 39K	
R6021	ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	
R6022	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	
R6023	ERJ6GMYJ273	M.RESISTOR CH 1/10W 27K	
R6025	ERJ6GMYJ433	M.RESISTOR CH 1/10W 43K	
R6026	ERJ6GMYJ393	M.RESISTOR CH 1/10W 39K	
R6029	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	

Ref. No.	Part No.	Part Name & Description	Remarks
R6030	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	
R6031	ERJ6GMYJ682	M.RESISTOR CH 1/10W 6.8K	
R7301	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7302	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	NV-FJ613EC-S/ECNS/ECMS/ECYS
R7304	ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7305	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7305	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	NV-FJ613EC-S/ECNS/ECMS/ECYS
R7306	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7306	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	NV-FJ613EC-S/ECNS/ECMS/ECYS
R7307	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7308	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7309	ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7311	ERJ6GEYJ752	M.RESISTOR CH 1/10W 7.5K	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7312	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7313	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7314	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7315	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7316	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7316	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R7317	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7318	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7319	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7320	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7324	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	NV-FJ613EC-S/ECNS/ECMS/ECYS
R7325	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	NV-FJ613EC-S/ECNS/ECMS/ECYS
R7327	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R7328	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	NV-FJ613EC-S/ECNS/ECMS/ECYS
R7329	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	NV-FJ613EC-S/ECNS/ECMS/ECYS
R7501	ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	
R7502	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	
R7503	ERJ6GMYJ432	M.RESISTOR CH 1/10W 4.3K	
R7504	ERJ6GMYJ822	M.RESISTOR CH 1/10W 8.2K	
R7505	ERJ6GMYJ562	M.RESISTOR CH 1/10W 5.6K	
R7506	ERJ6GMYJ432	M.RESISTOR CH 1/10W 4.3K	
R7508	ERDS2TJ150	C.RESISTOR 1/4W 15	
R7509	ERJ6GMYJ750	M.RESISTOR CH 1/10W 75	
R7510	ERDS2TJ821	C.RESISTOR 1/4W 820	
R7511	ERDS2TJ821	C.RESISTOR 1/4W 820	
R7513	ERJ6GMYJ303	M.RESISTOR CH 1/10W 30K	
R7514	ERJ6GMYJ303	M.RESISTOR CH 1/10W 30K	

Ref. No.	Part No.	Part Name & Description	Remarks
R7515	ERJ6GMYJ303	M.RESISTOR CH 1/10W 30K	
R7516	ERJ6GMYJ303	M.RESISTOR CH 1/10W 30K	
R7517	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R7518	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R7519	ERJ6GMYJ432	M.RESISTOR CH 1/10W 4.3K	
R7521	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	
R7533	ERJ6GMYJ223	M.RESISTOR CH 1/10W 22K	
R7534	ERJ6GMYJ181	M.RESISTOR CH 1/10W 180	
R7535	ERJ6GMYJ103	M.RESISTOR CH 1/10W 10K	
R7537	ERJ6GMYJ123	M.RESISTOR CH 1/10W 12K	
R7538	ERJ6GMYJ123	M.RESISTOR CH 1/10W 12K	
R7601	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R7602	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	
R7604	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	
R7605	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	
R7606	ERDS2TJ331	C.RESISTOR 1/4W 330	
R7607	ERDS2TJ331	C.RESISTOR 1/4W 330	
R7608	ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	
R7610	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	
R7611	ERJ6GMYJ471	M.RESISTOR CH 1/10W 470	
R7613	ERJ6GMYJ151	M.RESISTOR CH 1/10W 150	
R7614	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	
R7615	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	
R7712	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	
R7713	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	
R7714	ERJ6GMYJ472	M.RESISTOR CH 1/10W 4.7K	
R7715	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	
R7724	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	
R7725	ERJ6GMYJ221	M.RESISTOR CH 1/10W 220	
R7726	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/ EGYK
R7726	ERJ6GMYJ152	M.RESISTOR CH 1/10W 1.5K	NV-FJ613EC-S/ECNS/ECMS/ECYS
R7728	ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	
R7729	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R7730	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R7731	ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	
R7732	ECUM1H100DCN	C.CAPACITOR CH 50V 10P	
R7733	ERJ6GMYJ101	M.RESISTOR CH 1/10W 100	
S1501	K0G934A00002	SWITCH	[SUPPLIED FROM MBV]
S7501	EVQ11G07K	SWITCH	
S7502	EVQ11G07K	SWITCH	
S7503	EVQ11404M	SWITCH	
S7504	EVQ11404M	SWITCH	
S7505	EVQ11L07B	SWITCH	
S7506	EVQPC005B	SWITCH	[SUPPLIED FROM MBV]
S7507	VES0834	S-TAB SWITCH	K0J1BB000004
S7508	EVQ11G07K	SWITCH	
S7511	EVQ11L07B	SWITCH	
S7512	EVQ11G07K	SWITCH	
S7513	EVQ11L07B	SWITCH	
S7514	EVQ11G07K	SWITCH	
S7515	EVQ11L07B	SWITCH	

Ref. No.	Part No.	Part Name & Description	Remarks
T0701	EQV5EC082P	TRANSFORMER	
T1101	ETE28K131AZ	SWITCHING TRANSFORMER	⚠
T4002	EQQ7QF024P	TRANSFORMER	
TU7601	ENG47316G1	TUNER	⚠ [SUPPLIED FROM MBV]
VR0701	EVNCBAA00B14	V.RESISTOR	
VR7301	EVNCBAA00B14	V.RESISTOR	NV-FJ614EG-K,NV-FJ613EL-S/EL-K/EGYK
X0701	VLF1416	FILTER	J0B4045A0002
X0704	VLF1493	FILTER	
X3001	VSX0162	CRYSTAL OSCILLATOR	
X6001	VSX0660	CRYSTAL OSCILLATOR	
X6002	H0D200500014	CRYSTAL OSCILLATOR	[SUPPLIED FROM MBV]
X7301	VSX1086	CRYSTAL OSCILLATOR	[SUPPLIED FROM MBV]NV-FJ614EG-K,NV-FJ613EL-S/EL-K/EGYK
X7302	VSX0953	CRYSTAL OSCILLATOR	NV-FJ613EC-S/ECNS/ECMS/ECYS
		MISCELLANEOUS	
	TP00351-51	FUSE HOLDER	
	TP00351-51	FUSE HOLDER	
	VSC4999	HA CASE (A)	
	VSC4998	HA ANGLE	
	VSC4752	SHIELD CASE (MAIN)	FOR NICAM DECODER C.B.A.NV-FJ613EC-S/ECNS/ECMS/ECYS
	VMP4894	SUPPORT ANGLE	FOR DECODER C.B.A.NV-FJ614EG-K,NV-FJ613EL-S/EL-K/EGYK
	VMP5897	CONNECTING ANGLE	FOR TV DEMODULATOR C.B.A.
■	----------	CYLINDER STATOR C.B.A.	
		MISCELLANEOUS	
	VJS3537B009G	CONNECTOR (FEMALE) 9P	
	HW-300A-DF	HALL IC	B4AAB0000007


R0206
(FG HEAD)
P0201
CURR LIMIT 1
CAP ET 2
CAP ED/S 3
CAP FG1 4
GND (FG) 5
REG 5V 6
GND (MOTOR) 7
LOAD MOTOR (-) 8
LOAD MOTOR (+) 9
PS 14V 10
UNLOADING Ⓗ 11
LOADING Ⓗ 12
TO SYSTEM CONTROL & SERVO SECTION P2501(F-18)
C0201
R0207
HOLE SENSOR H3
R0208
HOLE SENSOR H1
R0209
HOLE SENSOR H2
IC0201
(CAPSTAN MOTOR DRIVE)
RCC SET
POSITION SIGNAL PROCESS
DIFFERENTIAL AMP
TORQUE DIRECTION
HALL POWER
EC AMP
TL AMP
AMP
TSD
CONTROL LOGIC
DRIVER
DRIVER
VM1
H3-
H3+
H1-
H1+
H2-
H2+
ED/S
GND
VH+
EC
VCC
ECR
TL
PCV
PC1
VCC
NC
VM1
A3
A1
A2
ATC
A2
OUT2
RNF
OUT1
VM2
RIN
FIN
R0201
R0211
C0206
C0207
R0204
R0212
R0213
Q0203
Q0202
Q0201
R0210
D0203
TL0204
TL0202
TL0203
TL0201
L0201
C0208
C0209
C0210
CAPSTAN MOTOR MAIN COIL
TL0205


CYLINDER SERVO SPEED LOOP
MAIN COIL 2
MAIN COIL 3
MAIN COIL 1
HALL IC
P2901
1 M2
2 VH+
3 M3
4 HE+
5 GND (CYL)
6 VM
7 VM
8 HE-
9 M1
TO SYSTEM CONTROL & SERVO SECTION P2502(B-18)
NOTE:DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.WHEN YOU ORDER A PART,PLEASE REFER TO PARTS LIST.
A
1
2
3

AUDIO SIGNAL PATH

PK7301
SIF 1
GND 2
TUNER AUDIO (N) 3
4
5
6
TUNER 5V 7
TO POWER SUPPLY/RF SECTION PK7301 (C-10)
1.6
0
5.0
C7316 0.1
C7317 6V100
R7314 3300
R7315 0
C7318 16V10
C7326 1500P
R7316 6800

IC7301
TDA7873H

R7309 220
TL7302
C7319 16V47
TL7301
C7320 4700P
C7321 50V0.47

AF SWITCH

R7307 6800
C7327 1500P
C7328 1500P
R7308 6800
C7313 16V10
C7312 16V10
R7318 0
R7320 3300
R7319 3300
R7317 0

C7310 0.01
C7309 0.01

STEREO DECODER STEREO ADJUST

DIGITAL IDENTIFICATION PILOT NARROW-BAND PLL

IIC BUS TRANSCEVER

POWER SUPPLY

AF AMPLIFIER 1

AF AMPLIFIER 2

C7308 50V0.47 (N)

FM DEMODULATOR NARROW-BAND PLL SC1

FM DEMODULATOR NARROW-BAND PLL SC2

C7322 50V0.47 (N)
C7323 0.1
R7311 7500
R7312 100
R7313 100
C7301 0.01
R7301 0
C7303 50V0.47 (N)
C7302 50V0.47 (N)
R7304 4700
VR7301 10KB

TL7303

R7306 5600
C7307 680P
C7306 0.012
X7301 VSX1086
R7305 5600
C7305 0.012
C7304 680P

PK7302
SYS IIC CLOCK 1
SYS IIC DATA 2
3
TUNER AUDIO (R) 4
GND 5
TUNER AUDIO (L) 6
TO POWER SUPPLY/RF SECTION PK7302 (B-10)
5.0
5.0
0
0

NOTE:THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART,PLEASE REFER TO PARTS LIST.

Ⓡ :TO POWER SUPPLY/RF SECTION
Ⓢ :TO SYSTEM CONTROL & SERVO SECTION
Ⓥ :TO LUMINANCE & CHROMINANCE/AUDIO SECTION
Ⓘ :TO INPUT/OUTPUT SECTION
Ⓣ :TO TIMER SECTION

AUDIO MAIN SIGNAL PATH IN REC MODE

AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

Ⓢ D.FM REC Ⓗ (A6)
Ⓢ PB 60Hz Ⓗ (A5)
Ⓢ MUTE Ⓗ (A4)
Ⓢ SYS IIC CLOCK (A3)
Ⓢ SYS IIC DATA (A2)
Ⓥ FSC (A1)

Ⓘ AUDIO OUT2 (R)
Ⓘ AUDIO OUT2 (L)
Ⓘ AUDIO OUT1 (R)
Ⓘ AUDIO OUT1 (L)
Ⓣ P.FAIL MUTE
Ⓡ PS 12V
Ⓡ PS 5V
Ⓡ GND
Ⓥ AUDIO IN (N)
Ⓥ AUDIO OUT (N)
Ⓡ RFC AUDIO OUT
Ⓢ AUDIO MUTE Ⓗ

Ⓡ TUNER AUDIO (R) (B1)
Ⓘ AUDIO IN1 (R) (B2)
Ⓘ AUDIO IN2 (R) (B3)
Ⓡ TUNER AUDIO (L) (B4)
Ⓘ AUDIO IN1 (L) (B5)
Ⓘ AUDIO IN2 (L) (B6)
Ⓥ AUDIO HEAD COM (B7)
Ⓥ AUDIO HEAD R (B8)
Ⓥ AUDIO HEAD L (B9)
Ⓢ A.HEAD SW (B10)
Ⓢ ABS NORMAL Ⓗ (B11)

L4503 1.2u
C4524 0.01
C4525 6V100
R4537 0
C4528 16V10
R4524 1K
R4525 1K
R4522 30K
R4538 1K
C4521 16V10
C4520 16V22
R4523 4700
R4521 510
C4522 0.047
C4523 10V33

VCO-FO
VCC
GND(R)
REC AGC ADJ.
MUTE CONTROL

IIC BUS INTERFACE
PNR RCH
AGC & SWITCH
REC AGC DET
R4520 120K
C4519 0.015
C4518 0.22
L4504 180u
C4517 100P
C4539 18P
QR4507 UN2211 (PB 60Hz Ⓗ :ON)

(C/D)
R4529 220
R4530 100K
C4529 16V10
QR4503 UN2216 (MUTE)
R4531 220
R4532 100K
C4530 16V10
QR4504 UN2216 (MUTE)
R4536 220
R4533 100K
C4531 16V10
QR4502 UN2216 (MUTE)
R4535 220
R4534 100K
C4532 16V10
QR4501 UN2216 (MUTE)

SWITCH RCH
SWITCH LCH
OUTPUT SELECT SWITCH RCH
OUTPUT SELECT SWITCH LCH
GND
VCC2
DET
NORMAL OUTPUT SWITCH
INPUT SWITCH RCH
INPUT SWITCH LCH

L4501 0
C4537 0.01
C4538 16V47
R4528 390
C4533 16V10
C4534 10V22
C4535 16V10
C4536 0.1
R4527 4700

QR4505 UN2113 (BUFFER)
QR4506 UN2216 (MUTE)

IC4501 AN3656NFBP

C4540 0.1 (C/D)
C4541 0.1
C4501 16V10
C4502 16V10
C4503 16V10

FM MODULATOR/ DEMODULATOR
BPF
LPF
AGC
PREAMP & SWITCH
AGC & SWITCH
PNR LCH

REC DC2
C4516 0.1
VCC
GND
C4513 0.01
C4512 150P
C4511 150P
C4510 0.01
C4509 0.033
C4508 0.015
C4507 16V22
C4506 16V10

ENV.DET OUT
R4519 820
TW4502
D4502 MA165
TL4503
R4506 22K
TW4501

R4510 10K
R4517 22K
R4511 5600
R4509 68K
R4504 5600
R4503 68K
R4513 10K
R4518 22K
R4514 5600
R4512 68K
R4502 5600
R4501 68K
(C/D)

R4515 4700
R4516 510
C4504 0.047
C4505 10V33
C4515 6V100
C4514 0.01
L4502 1.2u

NOTE:THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS( )ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR.(SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.(SP MODE)

NOTE:DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.WHEN YOU ORDER A PART,PLEASE REFER TO PARTS LIST.

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

Ⓡ :TO POWER SUPPLY/RF SECTION
Ⓢ :TO SYSTEM CONTROL & SERVO SECTION
Ⓥ :TO LUMINANCE & CHROMINANCE/AUDIO SECTION
Ⓐ :TO Hi-Fi AUDIO SECTION

Ⓡ PS 12V
Ⓡ PS 5V
Ⓡ N.SW 5V
Ⓢ AV2 PB 12V
Ⓐ AUDIO IN2 (R) (A12)
Ⓐ AUDIO IN2 (L) (A11)
Ⓐ AUDIO OUT2 (L) (A10)
Ⓐ AUDIO OUT2 (R) (A9)
Ⓐ AUDIO IN1 (R) (A8)
Ⓐ AUDIO IN1 (L) (A7)
Ⓐ AUDIO OUT1 (L) (A6)
Ⓐ AUDIO OUT1 (R) (A5)
Ⓢ AV1 PB 12V (A3)
Ⓢ AV1 PB Ⓗ (A2)
Ⓢ VIDEO OUT (A1)

L4903 68u
L4902 68u
C4925 0.1
C4926 6V220
C4920 0.1
C4921 6V220
L4904 0
R4905 22K
R4904 15K
R4928 0:A/B 1K:C/D
R4926 470
R4901 470
R4909 22K
Q4901 2SD601A (AV1 PB Ⓗ :ON)
R4945 15K
R4946 22K
R4910 470K
D4904 MA165
R4902 470
Q4904 2SB709A (AMP)
C4927 6V470
R4925 1K
R4927 1K
R4915 470
C4916 0.1
D4903 MA165
C4919 0.1
C4923 0.1
C4928 0.1

IC4901
LA73021M

GND
N.SW 5V
PS 5V
FSS OUT
6dB
SW1
SW3
SW2
CLAMP
SERIAL CONTROL
POWER SAVE
IIC BUS INTERFACE
EXT CTL 4
EXT CTL 2
V REF
RIPPLE FLT
EXT CTL 3
EXT CTL 1
AMP
BUF
12V

R4938 220
C4937 0.1
C4929 0.1
C4930 0.1
C4942 0.1
R4942 0
C4941 0.1

Ⓢ SLEEP Ⓗ
Ⓢ OSD IIC DATA
Ⓢ OSD IIC CLOCK
Ⓡ TUNER VIDEO (B1)
Ⓥ VIDEO IN (B2)
Ⓢ PROG. Ⓗ (B3)
Ⓡ GND
Ⓡ GND (A)

TW4903 TW4907 LB4906 220 LB4905 220 C4915 470P C4914 470P
TW4902 TW4901 R4918 330 R4916 330 C4913 470P C4912 470P C4909 47P C4910 47P L4901 0.22u
TW4906 JK4903 K1FB121B0003 (AV1)

TV	
1	AUDIO OUT (R)
2	AUDIO IN (R)
3	AUDIO OUT (L)
4	GND (A)
5	GND
6	AUDIO IN (L)
7	BLUE
8	PB +12V
9	GND
10	IIC CLOCK
11	GREEN
12	IIC DATA
13	GND
14	GND
15	RED
16	BLANKING
17	GND
18	GND
19	VIDEO OUT
20	VIDEO IN
21	GND

TW3003 TW3002 R4913 75 R4914 75

Q4903 2SD601A (RGB ON:ON) R4903 4700 R4941 10K
QR4903 UN2212 (RGB OFF Ⓗ :ON)

LB4904 220 LB4903 220 C4905 470P C4906 470P
JK4902 K1FB121B0003 (AV2)

DECODER/EXT	
1	AUDIO OUT (R)
2	AUDIO IN (R)
3	AUDIO OUT (L)
4	GND (A)
5	GND
6	AUDIO IN (L)
7	BLUE
8	PB +12V
9	GND
10	IIC CLOCK
11	GREEN
12	IIC DATA
13	GND
14	GND
15	RED
16	BLANKING
17	GND
18	GND
19	VIDEO OUT
20	VIDEO IN
21	GND

R4912 330 R4906 330 C4903 470P C4904 470P C4907 47P C4908 47P
R4908 75 R4911 75

QR4905 UN2215 (PROG Ⓗ :ON)
QR4904 UN2215 (PROG Ⓗ :ON)
D4902 MA4051NM
D4901 MA4051NM

NOTE:THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR.(SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.(SP MODE)

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.WHEN YOU ORDER A PART,PLEASE REFER TO PARTS LIST.

AUDIO SIGNAL PATH

L7302 1u

C7302 6V100

X7302 VSX0953

C7316 0.1

R7327 8200

R7325 0

TEST1 (22) 3.3 | VDDA2 (21) | VSSA2 (20) | VDDR2 (19) | 1 REF (18) 2.0 | TEST2 (17) | TP3 (16) | XTAL I (15) 1.6 | XTAL O (14) 1.6 | ADDR1 (13) | PCLK (12) 0.4

SIF2 (23) 2.0 — INPUT SWITCH AGC, ADC — FM/AM DEMODULATION

C7315 0.1

VREF1 (24) 2.0

SIF1 (25) 2.0

CRESET (26) 4.9

VSSA3 (27)

VDDA3 (28) 4.9

SCL (29) 4.8

SDA (30) 4.6

SDO (31) 1.2

WS (32) 1.2

SCK (33) 1.2

IIC BUS INTERFACE

IIC BUS INTERFACE

IDENTIFI-CATION

NICAM DEMODULATION

DEMATRIX

NICAM DECODER

2 CHANNEL ANALOG/ SATELLITE DECODER

DIGITAL SELECTOR

LEVEL ADJUST

POST FILTER 3 DACS

2 CHANNEL OUTPUT BUFFERS

ANALOG CROSSBAR SWITCH

MONO CHANNEL OUTPUT BUFFERS

TP1 (11)

NICAM (10) 0.4

TP2 (9)

VDEC2 (8) 0

VSSD2 (7)

VDDD1 (6) 4.8

VSSD1 (5)

VSSA1 (4)

VDDA1 (3) 4.9

OUT R (2) 2.5

OUT L (1) 2.5

SYS CLK (34) 1.2 | VDDD3 (35) 4.8 | VSSD3 (36) | P1 (37) 4.9 | MONO IN (38) 2.4 | EXTIR (39) 2.4 | EXTIL (40) 2.4 | VREF2 (41) 2.4 | P2 (42) 4.9 | OUT M (43) 2.5 | VSSA4 (44)

IC7301 TDA9874AH

PK7301

QPSK/SIF	1	1.6
GND	2	
TUNER AUDIO (N)	3	0
	4	
	5	
	6	
TUNER 5V	7	4.9

TO POWER SUPPLY/RF SECTION PK7301 (C-10)

C7307 0.01 — R7302 0 — C7311 0

L7301 0

IC7302 PST7043 (RESET) IN (1) 4.9 GND (2) OUT (3) 4.9

C7308 50V2.2 — C7312 0.1

R7305 100 — R7306 100

C7305 33P — C7306 33P

PK7302

SYS IIC CLOCK	1	4.8
SYS IIC DATA	2	4.6
	3	
TUNER AUDIO (R)	4	0
GND	5	
TUNER AUDIO (L)	6	0

TO POWER SUPPLY/RF SECTION PK7302 (B-10)

FL7301 VLF0633

C7304 6V100 — C7301 0.01

C7341 4700P

C7342 4700P

R7316 10K — LB7303 0 — C7313 0.1

TL7301

TL7303

C7318 6V47

TL7304

R7324 220 — C7317 16V10

R7328 220 — C7319 16V10

R7329 220 — C7320 16V10

LB7301 0 — C7325 0.1

C7324 0.1

NOTE:THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING. WHEN YOU ORDER A PART,PLEASE REFER TO PARTS LIST.

CAUTION

THE STRIPED FRAME INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.

PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

Ⓡ :TO POWER SUPPLY/RF SECTION

Ⓣ :TO TIMER SECTION

HOT

P1101 VJS3306 — AC INLET

F1101 VSF0243C16

L1107 ELF15N005A

L1108 ELF15N003A

LB1102 0

C1101 1000P

C1118 0.068

D1102 S1WBA80-4062

LB1103 0

C1120 400V 33

LB1101 0

LB1104 0

C1104 1000P

R1110 12K

R1108 12K

R1104 12K

R1103 12K

R1117 12K

R1126 12K

R1105 1M

R1106 1M

D1118 22K

R1102 22K

C1109 0.01

D1103 AP01CV2

T1101 ETE28K131AZ

P1

P2

V1

V2

LB1107 0

C1107 1000P

D1104 MA185

R1115 47

Q1102 2SB1030A (PROTECTOR)

R1123 2200

R1124 22K

Q1101 2SD1996 (PROTECTOR)

C1122 120P

D1105 MA165

R1118 100

C1110 10V330

R1107 100K

C1111 1000P

IC1101 STRG6352LF

OVP

TSD

TRI

UVLO

REG

INTERNAL BIAS

DELAY

LATCH

DRIVE

PWM LATCH

OCP

OSC

R1109 1500

C1114 50V47

D1130 MA7300B

R1114 2200

C1108 68P

D1107 MA165

C1112 8200P

LB1105 VLP0056

R1111 470

R1113 0.68

D1106 MA165

R1112 1K

C1106 1000P

Q1111 PC123ZY2

R1125 100

R1101 2700

IC1102 uPC1093J

C1102 0.01

R1116 1K

R1119 27K

R1121 2700

R1120 2200

S7 — D1125 11EQS06 — HEATER (+) Ⓡ

S8 — IP1101 VSF0015A10T — C1143 10V330 — HEATER (-) ⓇⓉ

S3 — C1136 100P

S4 — D1114 21DQ06FC4 — L1122 22u — C1134 10V1800 — C1135 10V330 — UNREG 5.6V Ⓡ

S6 — D1124 ERA22-04 — C1142 220P — L1124 100u — C1140 50V100 — C1141 0.01 — UNREG -29V Ⓡ

S1

S2 — D1121 RL2ZPLF-C4 — L1121 22u — C1131 25V820 — C1132 25V330 — UNREG 16V Ⓡ

S5 — C1139 220P — D1123 ERA22-04 — L1123 100u — C1137 50V47 — C1138 0.01 — UNREG 36V Ⓡ

GND Ⓡ

NOTE:THE MEASURMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE1:WHEN MEASURE THE VOLTAGE OR WAVEFORM ON THE POWER TRANSFORMER CIRCUIT,SET THE GND TERMINAL OF MEASURING POINT AS FOLLOWS.
PRIMARY SIDE..... ⏚
SECONDARY SIDE... ⏚

NOTE2:THE DC VOLTAGE INDICATED IN PRIMARY SIDE IS SHOWN THE VOLTAGE WHEN INPUT AC IS 240V.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,USE ONLY THE SAME TYPE.

NOTE:DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.WHEN YOU ORDER A PART,PLEASE REFER TO PARTS LIST.

F E D C B A

1 2 3 4 5 6 7 8 9 10

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

Ⓟ :TO POWER TRANSFORMER SECTION
Ⓢ :TO SYSTEM CONTROL & SERVO SECTION
Ⓥ :TO LUMINANCE & CHROMINANCE/AUDIO SECTION
Ⓐ :TO Hi-Fi AUDIO SECTION
Ⓘ :TO INPUT/OUTPUT SECTION
Ⓣ :TO TIMER SECTION

Q1002 2SD602A (BUFFER)
Q1006 2SD601A (FIP ON/OFF CONTROL)
QR1001 UN2112 (FIP Ⓛ:ON)
Q1008 2SB710A (POWER SAVE:OFF)
Q1007 2SD1996 (12V REG.)
Q1202 2SD1996 (5V REG.)
Q1201 2SD1996 (5V REG.)
Q1005 2SD602A (5V REG.)
Q1003 2SD1996 (5V REG.)
Q1004 2SD1996 (5V REG.)
QR1002 UN2211 (SLEEP Ⓗ:OFF)
QR1201 UN2212 (POWER OFF Ⓗ:ON)
Q7601 2SB709A (AMP)
QR7601 UN2215 (MUTE)
QR7602 UN2113 (BUFFER)
QR7603 UN2215 (MUTE)
QR7604 UN2215 (MUTE)

TU7601 TUNER UNIT ENG47316G1
1 N.SW 5V
2 GND
3 DATA
4 CLOCK
5 PS 5V
6 VIDEO OUT
7 AUDIO OUT
11 CLOCK
12 DATA
14 TUNER 5V
15 SW1
16 BTL 30V
17 IF OUT
18 IF IN

DU7601
19 PK0701-1
20 PK0701-2
21 PK0701-3
22 SIF/QPSK PK0701-4
23 AFC S-CURVE PK0701-5
24 TUNER VIDEO PK0701-6
25 TUNER 5V PK0701-7
26 PK0701-8
27 GND PK0701-9
TO TV DEMODULATOR PACK PK0701(D-1)

PK7301
1 SIF/QPSK
2 GND
3 TUNER AUDIO (N)
7 TUNER 5V
TO DECODER PACK PK7301(F-1):A/B TO PK7301(E-1):C/D PK7301(D-1):C/D

PK7302
1 SYS IIC CLOCK
2 SYS IIC DATA
4 TUNER AUDIO (R)
5 GND
6 TUNER AUDIO (L)
TO DECODER PACK PK7302(D-1):A/B TO PK7302(C-1):C/D PK7302(C-1):C/D

IP1002 UNH001200A
IP1005 0
IP1003 UNH000300A
IP1004 UNH000300A
IP1001 UNH000300A

HEATER (-)
HEATER (+)
PS HEATER (+)
UNREG -29V
FIP -29V
CYL 14V
CAP 14V
FIP Ⓛ
SLEEP Ⓛ
UNREG 36V
UNREG 16V
UNREG 5.6V
GND
GND
GND
GND
GND (A)
GND (FG)
GND (MOTOR)
GND (CYL)
POWER OFF Ⓗ
VIDEO 5V
REG 5V
PS 12V
PS 5V
BIAS 5V
N.SW 5V
TUNER AUDIO (R)
TUNER AUDIO (L)
AUDIO DEF Ⓗ
SYS IIC DATA
SYS IIC CLOCK
TUNER AUDIO (N)
TUNER VIDEO
AFC S-CURVE
VIDEO OUT
RFC AUDIO OUT

IMPORTANT SAFETY NOTICE:
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WHEN REPLACING ANY OF THESE COMPONENTS,USE ONLY THE SAME TYPE.

NOTE:THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE:DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.WHEN YOU ORDER A PART,PLEASE REFER TO PARTS LIST.

Ⓡ :TO POWER SUPPLY/RF SECTION
Ⓥ :TO LUMINANCE & CHROMINANCE/AUDIO SECTION
Ⓐ :TO Hi-Fi AUDIO SECTION
Ⓘ :TO INPUT/OUTPUT SECTION
Ⓣ :TO TIMER SECTION

CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP

IC6001
M37970VXGD

IC1502
RPI354N
(S-REEL)

IC1501
RPI354N
(T-REEL)

Q1501
PNB2301MBV
(T-PHOTO)

Q1502
PNB2301MBV
(S-PHOTO)

SENSOR
D1501
SIR505S

MODE SW
S1501
K0G934A-00002

QR6001
UN2215
(AV1 PB Ⓛ:OFF)

QR6006
UN2211
(SLEEP Ⓛ:OFF)

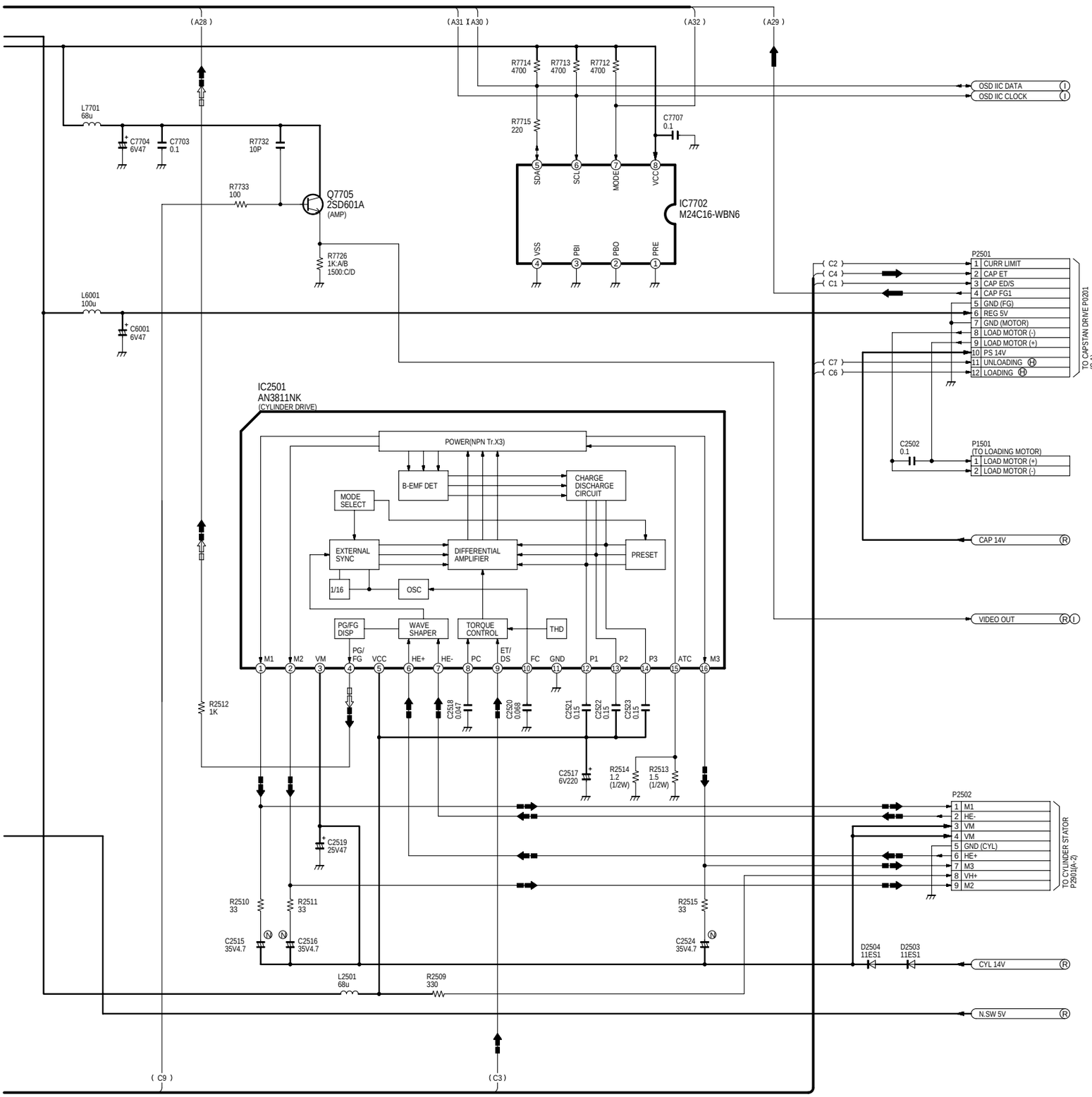
TW2002
TW2015
TW6002
TL6010
TL6012
TL6013
TL2502
TL2503

R2507 270K
R2508 43K
C2508 0.1
C2513 3900P
C6017 680P
R6031 6800
C2512 25V4.7
C2511 6V22
C2509 0.47
R2505 3900
C2510 33P
R2506 1M
D2502 MA165
D2501 MA165
R6030 4700
R6029 4700
R6015 470
R6014 470
R7725 220
R7724 220
R6013 220
R6012 220
R6011 220
R1504 27K
R1503 27K
R1502 180
C1502 330P

R6023 27K
C6015 16V10
R6025 43K
R6022 100
R6026 39K
C6016 0.01
R6019 10K
R6021 27K
R6020 39K
R1501 120
R6018 1K
C6014 1000P
R6017 1K
R6003 18K
C6013 0.1

X6002 H8D0200-500014
R6005 0
C6012 15P
C6011 18P
X6001 VSX0660
R6004 220K
C6010 18P
C6009 18P
C6008 1000P
D6001 0
R1505 100
C6003 470P
R6002 1K
C6005 0.01
C6004 0.01
R7731 1K
R7730 1K
C7713 6V47
L7703 68u
C7712 1
C7711 220P
R7729 1K
R2503 10K
R2504 10K
C2507 0.056
C2505 0.056
R2502 1K
R2501 0
C2506 0.056
C7620 0.1
C6002 150P
R6001 5600
R7728 47K
R6008 47K
R6009 22K
R6016 1K

| | | |

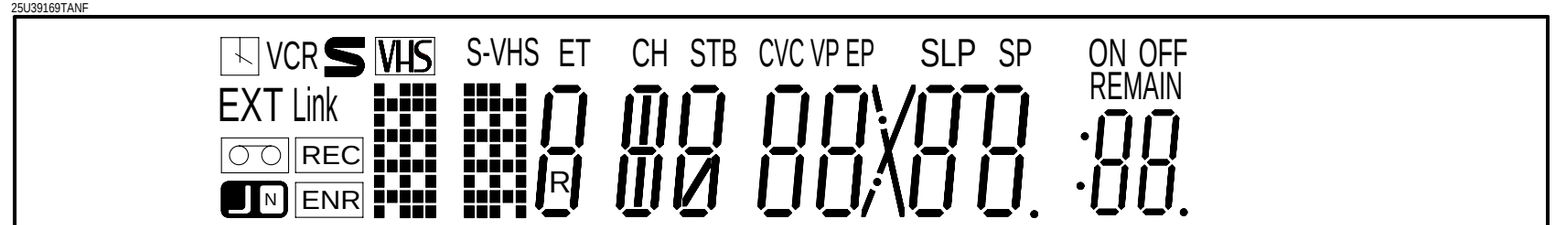


NOTE:DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.WHEN YOU ORDER A PART,PLEASE REFER TO PARTS LIST.

12 13 14 15 16 17 18

Ⓟ :TO POWER TRANSFORMER SECTION
Ⓡ :TO POWER SUPPLY/RF SECTION
Ⓢ :TO SYSTEM CONTROL & SERVO SECTION
Ⓥ :TO LUMINANCE & CHROMINANCE/AUDIO SECTION
Ⓐ :TO Hi-Fi AUDIO SECTION

DP7501
25U39169TANF



F+ F+ P1 P2 P3 P4 P5 P6 P7 P8 NC P9 P10 P11 P12 P13 P14 P15 P16 P17 P18 NC NC NC NC NC NC NC NC NC NC 1G 2G 3G 4G 5G 6G 7G NC NC F- F-
1 2 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 44 45

Ⓡ PS HEATER (+)
R7508 15
C7501 0.01
Ⓟ HEATER (-)
D7501 MN4220NM
C7502 50V10
R7511 820
R7510 820
Ⓡ FIP -29V
R7509 75

-28.4 -28.3 -29.0 -29.4 -28.3 -28.1 -28.5 -24.3 -29.0 -24.3 -24.1 -24.3 -19.0 -24.3 -24.1 -14.3 -29.4 -29.4
36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 VEE

IC7501
M35502AFP

S DATA S CLOCK CS Ⓛ A3 A2 A5 A4 VSS OSC VCC G1 G2 G3 G4 G5 G6 G7 S18
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
4.9 5.0 2.4 5.2 5.2 5.2 5.2 2.3 5.2 -24.8 -24.8 -24.8 -24.8 -24.8 -24.8 -24.8 -29.4

C7503 12P

Ⓢ S.DATA
Ⓢ S.CLOCK
Ⓢ FIP CS
Ⓢ SAFETY TAB Ⓛ
SAFETY TAB
S7507 VES0834
POWER
S7506 EVQPC005B
Ⓢ POWER SW
R7521 22K
Ⓢ IR
Ⓡ N.SW 5V
Ⓡ GND
Ⓥ Ⓐ P.FAIL MUTE
Ⓢ P.FAIL Ⓛ
Ⓢ RESET Ⓛ
Ⓢ BACK UP 5V

IC7502
PNA4611M08V
(IR RECEIVER)
R OUT GND VCC
1 2 3
5.2 5.2

R7533 22K
R7517 10K
R7518 10K
R7513 30K
R7515 30K
R7516 30K
R7514 30K

IC7504
S80743AL
(RESET)
RST VDD VSS
1 2 3
5.2 5.2

QR7501
UN2113
(RESET Ⓛ :ON)
5.2 5.2 0
C7511 0.1

IC7503
RN5VD28AA
(RESET)
1 OUT
2 VDD
3 GND
CD 5
4
4.9 4.9 4.4 0

C7504 6V100
C7510 0.01
R7535 10K
C7509 0.068
D7503 RB441PT-77
R7534 180
C7507 VCE0073
C7508 6V220

CH UP
S7504 EVQ11404M
PAUSE
S7503 EVQ11404M
PLAY
S7511 EVQ11L07B
REW
S7512 EVQ11G07K
R7506 4300
R7505 5600
R7504 8200
R7537 12K

CH DOWN
S7502 EVQ11G07K
REC
S7501 EVQ11G07K
STOP
S7515 EVQ11L07B
TIMER REC
S7513 EVQ11L07B
FF
S7514 EVQ11G07K
R7503 4300
R7502 5600
R7501 8200
R7538 12K

EXT LINK
S7508 EVQ11G07K
EJECT
S7505 EVQ11L07B
R7519 4300

NOTE:THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE:DO NOT USE PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.WHEN YOU ORDER A PART,PLESE REFER TO PARTS LIST.

F E D C B A
1 2 3 4 5 6 7 8 9

VIDEO SIGNAL PATH

AUDIO SIGNAL PATH

PK0701

DU7601-19		1
DU7601-20		2
DU7601-21		3
DU7601-22	SIF/QPSK	4
DU7601-23	AFC S-CURVE	5
DU7601-24	TUNER VIDEO	6
DU7601-25	TUNER 5V	7
DU7601-26		8
DU7601-27	GND	9

TO POWER SUPPLY/ RF SECTION DU7601 (D-10)

1.6 2.4 2.6 5.0

R0713 0

R0740 470

R0717 470

R0711 180

R0745 3.3M

C0707 50V2.2

T0701 EQV5EC082P

R0729 10K

R0730 10K

C0724 220P

R0727 0

C0719 0.1

C0708 50V 0.47

C0717 33P

R0742 150

Q0702 2SD601A (AMP)

3.6 3.3 2.6

R0741 220

C0721 120P

R0743 1K

3.1 2.4 1.6 3.0 2.7 2.2 3.3 4.3 4.3 1.8 0 1.3

IC0701 LA75503

BPF

AMP SW

EQ AMP

TRAP

LPF

VCO

FLL

BPF

AGC

AFT AMP

LIM AMP

VIDEO DET

APC DET

1ST SIF DET

S PLL

FM DET

FIL CONT

VIF AMP

IF AGC

1ST AMP

DEEMPHP

RF AGC

2.6 2.4 2.2 3.3 2.8 2.8 5.0 1.6 0.1 4.0 2.4

D0702 0

C0701 1

C0713 6V330

C0704 0.033

R0705 4700

R0708 10K

C0714 1

VR0701 10KB

R0707 39K

C0702 1000P

C0703 1

R0719 4700

C0712 0.1

X0704 VLF1493

C0710 0.01

L0701 0.18u

X0701 VLF1416

L0703 2.2u

R0725 100

C0715 3P

PP0701 (TO TUNER UNIT)

4MHz	1
AGC	2
IF	3
GND	4

C0711 16V22

R0715 22K

NOTE:THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE:DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.WHEN YOU ORDER A PART,PLEASE REFER TO PARTS LIST.

Ⓡ :TO POWER SUPPLY/RF SECTION
Ⓢ :TO SYSTEM CONTROL & SERVO SECTION
Ⓐ :TO Hi-Fi AUDIO SECTION
Ⓘ :TO INPUT/OUTPUT SECTION
Ⓣ :TO TIMER SECTION

VIDEO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

P4003
(TO A/C HEAD)
AUDIO ERASE IN 1
GND 2
A.HEAD (R) 3
A.HEAD (W) 4
CTL HEAD (-) 5
CTL HEAD (+) 6

R4030 8200
C4032 220P
T4002 EQQ7QF024P
C4031 0.022
C4029 1500P
R4029 3300
0.3 (-0.6)
0.4 (4.7)
Q4006 2SD602A (OSC)
L4003 68u
C4030 6V220
C4028 0.022
0.4 (4.9)
5.0 (4.1)
Q4005 2SB710 (AUDIO ERASE DRIVE)
5.0
R4028 2700
C4026 10V22
R4027 3300
R4026 4700
C4027 16V10

Ⓢ CTL HEAD (+)
Ⓢ CTL HEAD (-)
Ⓢ SHORT DET Ⓛ
Ⓢ BIAS Ⓛ

P4002
(TO FULL ERASE HEAD)
FULL ERASE OUT 1
FULL ERASE IN 2

Ⓢ HEAD SW (A1)
Ⓢ H.AMP SW (A2)
Ⓢ ENV.SELECT (A3)
Ⓢ TRACKING ENV. (A4)
Ⓢ D.REC Ⓗ (A5)
Ⓢ CURR.EMPH Ⓗ (A6)
Ⓡ TUNER AUDIO (N) (A7)
Ⓣ P.FAIL MUTE (A8)
Ⓐ AUDIO OUT (N) (A9)
Ⓢ MUTE Ⓗ (A10)
Ⓐ AUDIO IN (N) (A11)

P3502
(TO CYLINDER UNIT)
LP R 1 (A15)
LP COM 2 (A16)
LP L 3 (A17)
SP R 4 (A18)
SP COM 5 (A19)
SP L 6 (A20)
GND 7
AUDIO HEAD L 8
AUDIO HEAD COM 9
AUDIO HEAD R 10

Ⓐ AUDIO HEAD R
Ⓐ AUDIO HEAD COM
Ⓐ AUDIO HEAD L

Ⓢ D.A.REC Ⓗ
Ⓢ PAL EP Ⓗ

Ⓡ BIAS 5V
Ⓡ VIDEO 5V
Ⓡ GND

R4013 10K
0 (4.9)
QR4003 UN2111 (D.A.REC Ⓗ:OFF)
5.0(-23.0)
5.0
R4009 2200
0.7 (-23.1)
Q4001 2SD601A (PB:ON)
0(3.6)
0 (-14.9)
R4010 2200
0.7 (-23.1)
Q4002 2SD601A (PB:ON)

IC3501
AN3368SB

TW2001
A1 2.4 HEAD SW
A2 0 HEAD AMP SW
C3002 1000P
C3003 1000P
A19 0 (2.7) HA4
A20 C3506 0.1 LB3501 VLP0147 0.7 (2.9)
GND
A18 C3507 0.1 LB3502 VLP0147 0.7 (2.9) HA3
A17 C3508 0.1 LB3503 VLP0147 0.7 (2.4) HA2
GND
A15 C3509 0.1 LB3504 VLP0147 0.7 (2.4) HA1
A16 0 (2.5)
NC 11
NC 12
NC 13
NC 14
NC 15
NC 16
NC 17
NC 18
VCC 36 5.0
NC 35 0
DET
DET
CMP
34 4.9
A3
33 0.8 (3.4)
C3503 0.01
LP Ⓗ 32 0
ZAP
31 1.4
CHROMA AMP
30 2.4 (0)
GND 29
AT
28 2.7 (1.9)
27 3.9 (2.2)
A4
C3505 0.01
NC 26 0
REC Ⓗ 25 0 (4.9)
A5
NC 24 0
CURR.EMPH 23 0
A6
NC 22 0
NC 21 0
NC 20 0
NC 19 0

L3501 33u
C3501 6V47
C3502 0.01

TW3030
C3510 0.1
R3506 390
B1
TW3001
R3501 100
B2
C3511 0.1
R3502 3900
B3
QR3501 UN2212 (PAL EP Ⓗ :ON)
R3503 620
QR3502 UN2212 (LP Ⓗ :ON)
R3504 390

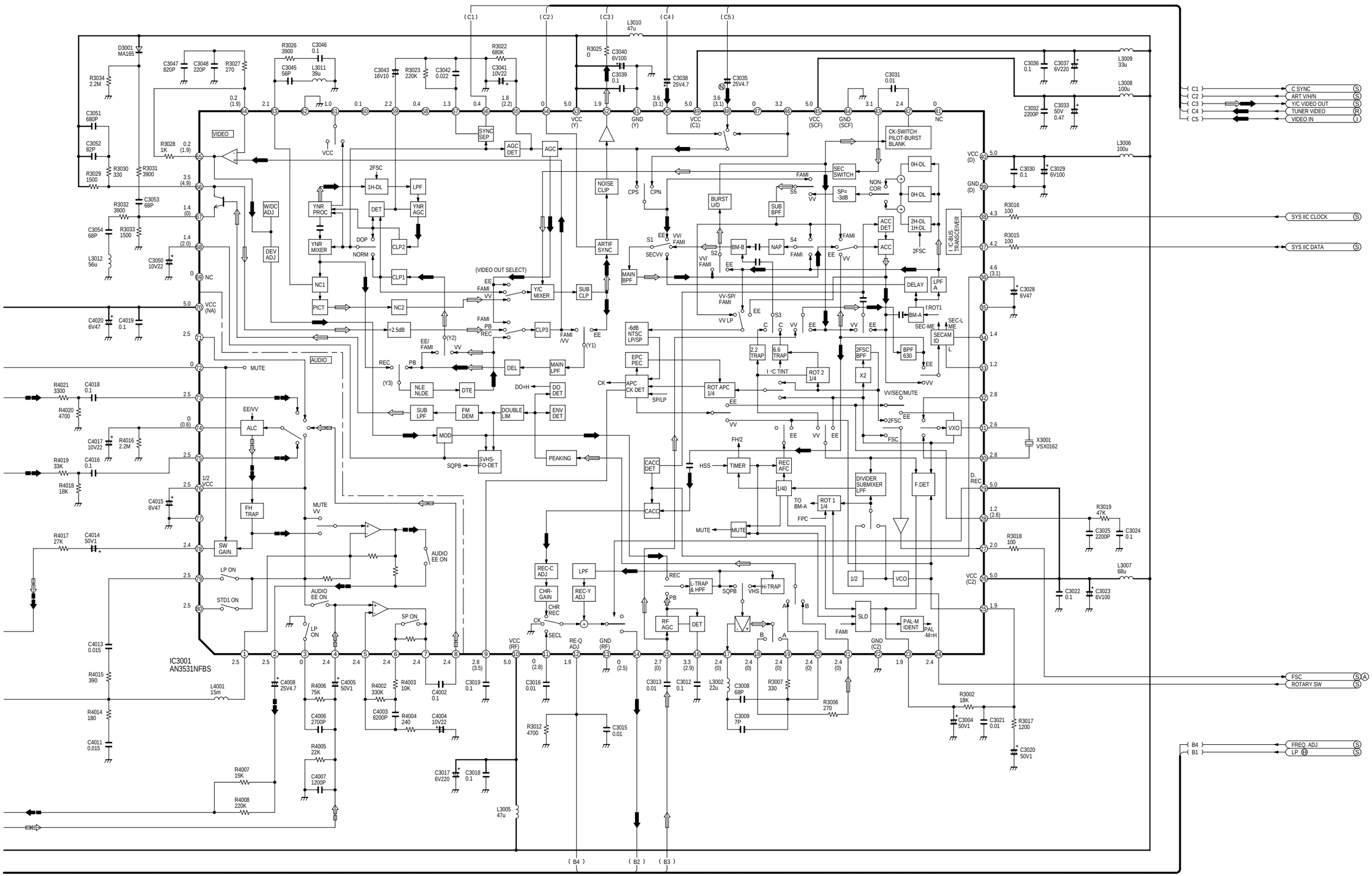
L4908 0
C4946 2200P
QR4005 UN2113 (BUFFER)
-0.4 (-0.1)
0
R4022 560
QR4004 UN2215 (MUTE)
-0.4 (-0.1)
R4011 470
C4010 0.027
QR4002 UN2211 (PAL EP Ⓗ:ON)
C4009 1

0.2(15.0)
QR4009 UN2215 (PAL EP Ⓗ:ON)
0.3
QR4008 UN2215 (PAL EP Ⓗ:ON)
C4033 100P
R4001 1K

QR4001 UN2212 (PAL EP Ⓗ:ON)
C4001 2200P

A7 A8 A9 A10 A11

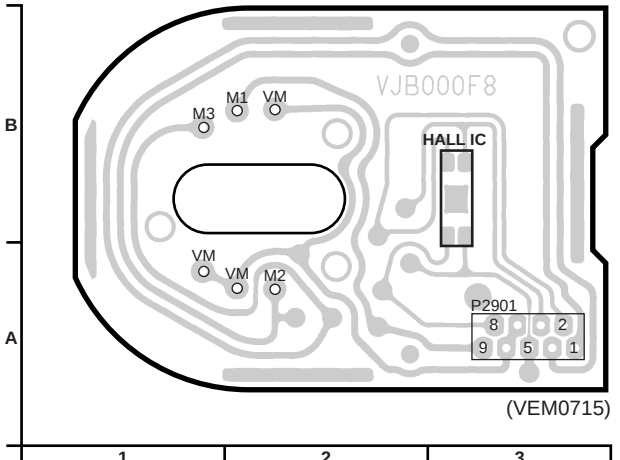
1 2 3 4 5 6 7 8 9 10 11 12



NOTE:THE MEASUREMENT MODE OF THE DC VLOLTAGE IN THE BRACKETS( )ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR.(SP MODE)

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.(SP MODE)

NOTE:DO NOT USE ANY PART NUMBER SHOWN ON THIS SCHEMATIC DIAGRAM FOR ORDERING.WHEN YOU ORDER A PART,PLEASE REFER TO PARTS LIST.



(VEM0715)

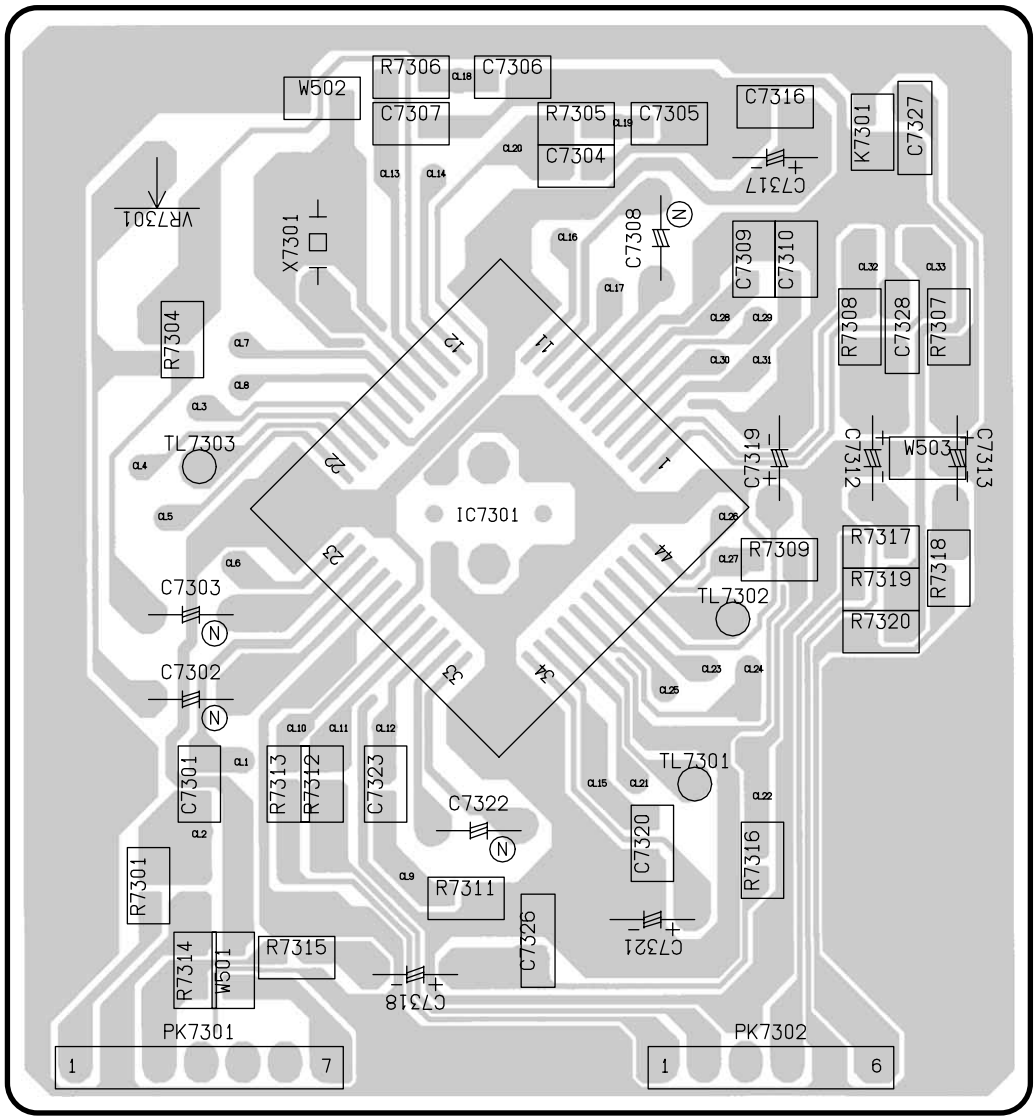
CYLINDER STATOR UNIT	
Integrated Circuit	
HALL IC	B-3
Connector	
P2901	A-3

ADDRESS INFORMATION

DECODER PACK C.B.A.	
Integrated Circuit	
IC7301	B-2
Test Point	
TL7301	A-2
TL7302	B-2
TL7303	B-1
Adjustment	
VR7301	C-1
Connector	
PK7301	A-1
PK7302	A-2

ADDRESS INFORMATION

(VEP07A16A:NV-FJ614EG,FJ613EL/EGY)



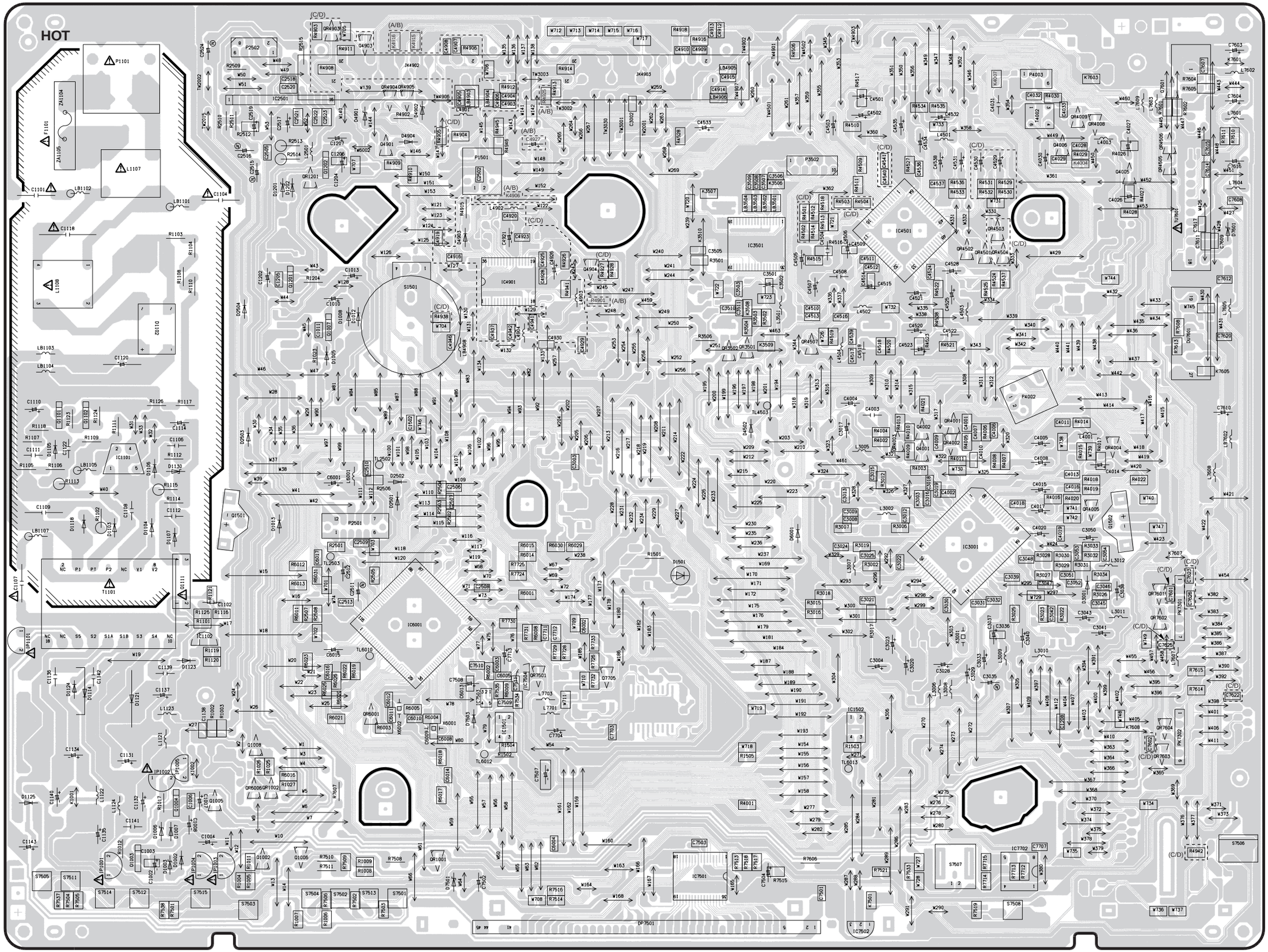
C

B

A

1 2 3

(VEP06D85K:NV-FJ614EG,FJ613EL)(VEP06E00G:NV-FJ613EGY)(VEP06D85L:NV-FJ613EC/ECM/ECN)(VEP06E00H:NV-FJ613ECY)



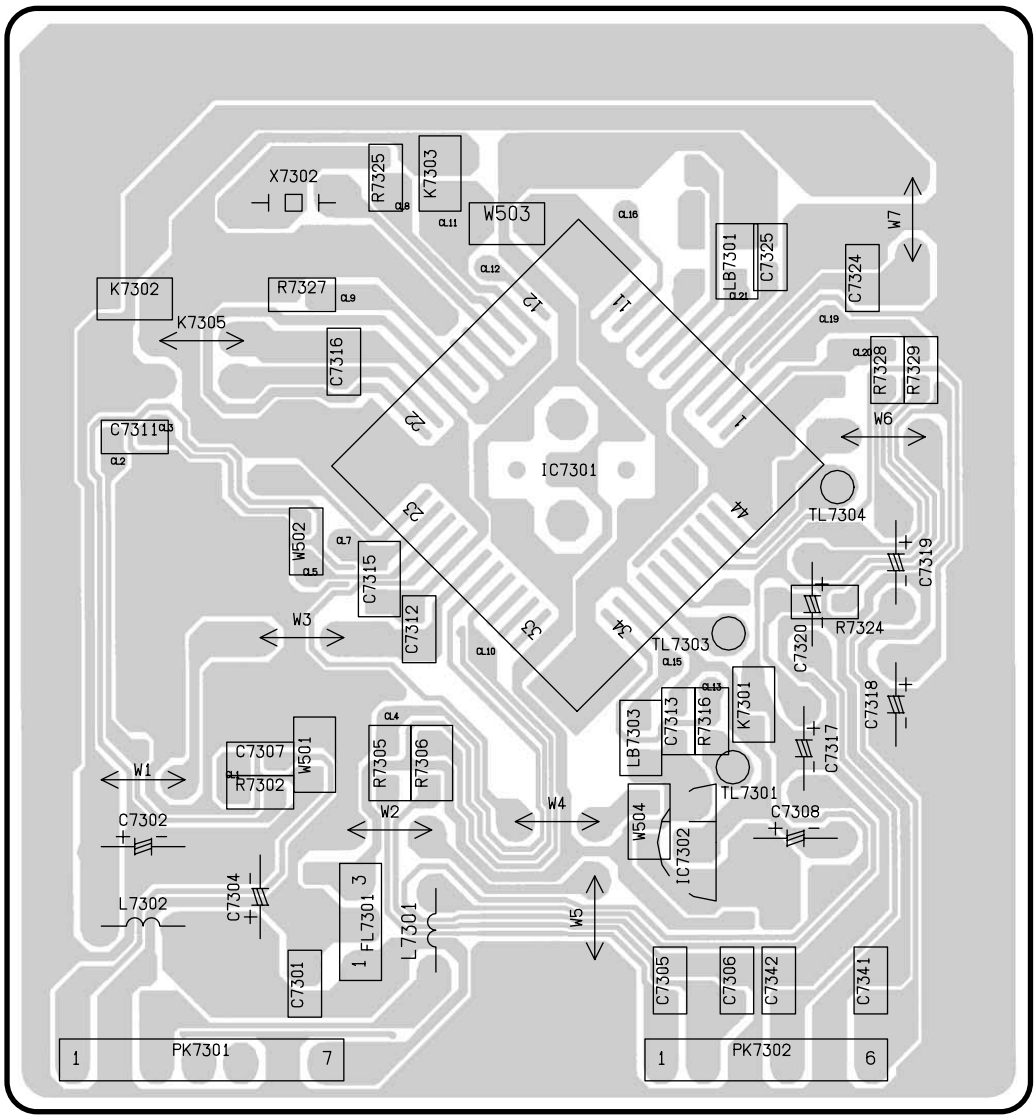
MAIN C.B.A.			
Transistor		**Integrated Circuit**	
Q1002	A-2	IC1101	D-1
Q1003	A-1	IC1102	C-2
Q1004	B-2	IC1501	B-4
Q1005	B-2	IC1502	B-6
Q1006	A-3	IC2501	F-2
Q1007	E-3	IC3001	C-7
Q1008	B-2	IC3501	E-5
Q1101	D-1	IC4501	E-6
Q1102	D-1	IC4901	E-4
Q1111	C-2	IC6001	C-3
Q1201	E-2	IC7501	A-5
Q1202	F-3	IC7502	A-6
Q1501	C-2	IC7503	B-4
Q1502	C-8	IC7504	B-4
Q4001	D-6	IC7702	A-7
Q4002	D-6	**Test Point**	
Q4005	F-8	TL2502	D-3
Q4006	F-7	TL2503	C-3
Q4901	F-3	TL4503	D-5
Q4903	F-3	TL6010	B-3
Q4904	E-4	TL6012	B-4
Q7601	F-8	TL6013	B-6
Q7705	B-4	TW2001	F-5
Transistor & Resistor		TW2002	F-2
QR1001	A-3	TW2015	F-2
QR1002	B-2	TW3001	F-5
QR1201	E-3	TW3002	F-4
QR3501	D-5	TW3003	F-4
QR3502	D-5	TW3030	F-4
QR4001	D-7	TW4501	F-5
QR4002	D-7	TW4502	F-6
QR4003	D-6	TW4901	F-5
QR4004	D-8	TW4902	F-5
QR4005	C-7	TW4903	F-6
QR4008	F-7	TW4906	F-3
QR4009	F-7	TW4907	F-5
QR4501	E-7	TW6002	F-3
QR4502	E-7	**Connector**	
QR4503	E-7	P1101	F-1
QR4504	E-7	P1501	F-4
QR4505	F-8	P2501	C-3
QR4506	F-8	P2502	F-2
QR4507	D-6	P3502	F-6
QR4903	F-3	P4002	D-7
QR4904	F-3	P4003	F-7
QR4905	F-3	DU7601	D-8
QR6001	B-3	PK7301	C-8
QR6006	B-2	PK7302	B-8
QR7501	B-4	TU7601	E-8
QR7601	C-8		
QR7602	C-8		
QR7603	B-8		
QR7604	B-8		

ADDRESS INFORMATION

NICAM DECODER PACK C.B.A.	
Integrated Circuit	
IC7301	B-2
IC7302	A-2
Test Point	
TL7301	A-2
TL7303	B-2
TL7304	B-2
Integrated Circuit	
PK7301	A-1
PK7302	A-2

ADDRESS INFORMATION

(VEP07A18J)



C

B

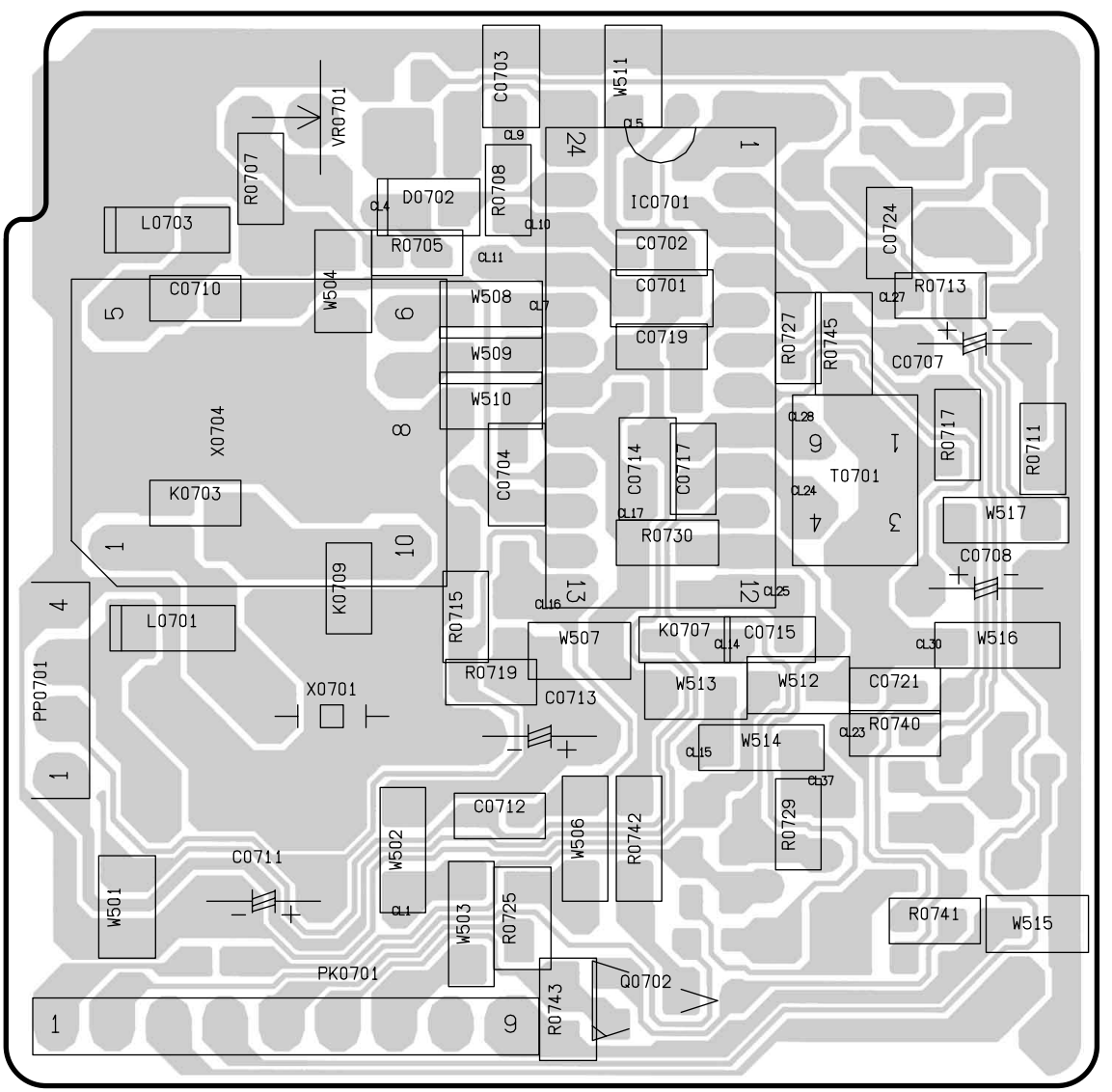
A

1 2 3

TV DEMODULATOR PACK C.B.A.	
Transistor	
Q0702	A-3
Integrated Circuit	
IC0701	C-2
Adjustment	
T0701	B-3
VR0701	D-2
Connector	
PK0701	A-2
PP0701	B-1

ADDRESS INFORMATION

(VEP07A23L)



1 2 3 4

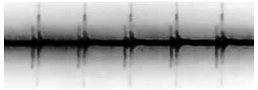
A B C D

T1101-3 STOP
9.0Vp-p (2msec. div.)

T1101-7 STOP
100Vp-p (5µsec. div.)

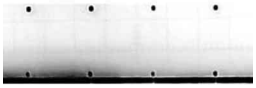
IC1101-1 STOP
470Vp-p (5µsec. div.)

IC1101-2 STOP
8.0Vp-p (10µsec.div.)

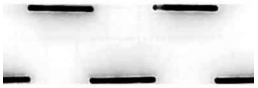


IC1101-4 STOP
0.5Vp-p (10µsec.div.)

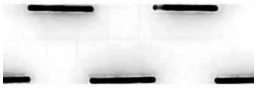
IC1101-5 STOP
0.6Vp-p (10µsec.div.)



IC6001-20 PAUSE
5.0Vp-p (10msec.div.)



IC6001-21 REC
5.0Vp-p (10msec.div.)



IC6001-24 REC
5.0Vp-p (10msec.div.)

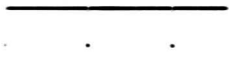
IC6001-61 REC
2.4Vp-p (20µsec.div.)

IC6001-68 REC
5.0Vp-p (10msec.div.)

IC6001-89 REC
5.0Vp-p (10msec.div.)

IC6001-90,91 REC
5.0Vp-p (10msec.div.)

IC6001-93,94 FF/REW
5.0Vp-p (1msec.div.)

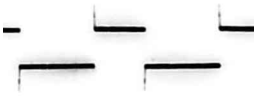


IC6001-97,98 REC
5.0Vp-p (10msec.div.)

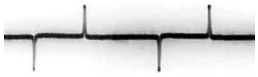
IC6001-99 REC
5.0Vp-p (10msec.div.)

IC6001-100 REC
5.0Vp-p (10msec.div.)

IC6001-107 REC
5.0Vp-p (10msec.div.)

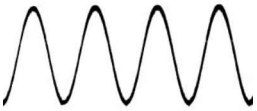


IC6001-111,112 REC
6.0Vp-p (10msec.div.)



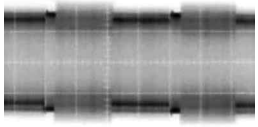
IC6001-114 PLAY
4.2Vp-p (10msec.div.)

IC2501-1,2,16 REC
8.6Vp-p (5msec.div.)

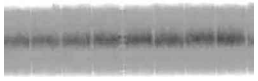


IC3001-2 REC
1.2Vp-p (5msec.div.)

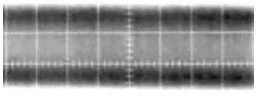
IC3001-4 PLAY
5.0Vp-p (5msec.div.)



IC3001-14 REC
0.4Vp-p (5msec.div.)



IC3001-15 PLAY
0.5Vp-p (20µsec.div.)



IC3001-20 PLAY
150mVp-p (20µsec. div.)

IC3001-24 REC/PLAY
5.0Vp-p (10msec. div.)

IC3001-37 REC/PLAY
5.0Vp-p (5msec. div.)

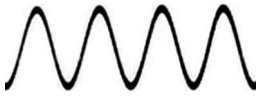
IC3001-38 REC/PLAY
5.0Vp-p (5msec. div.)

IC3001-42,43 PLAY
0.4Vp-p (20µsec. div.)

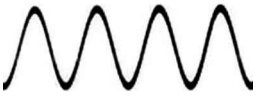
IC3001-48,50 REC
1.0Vp-p (20µsec. div.)

IC3001-52 REC/PLAY
2.0Vp-p (20µsec. div.)

IC3001-78 REC/PLAY
1.2Vp-p (5msec. div.)

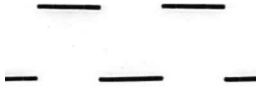


IC4501-9,14 REC
1.2Vp-p (5msec. div.)

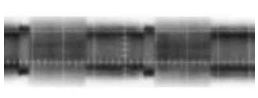


IC4501-21 REC
1.2Vp-p (5msec. div.)

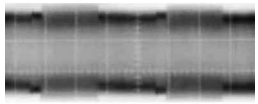
IC4501-53,57
REC/PLAY
1.2Vp-p (5msec. div.)



IC3501-1 REC/PLAY
5.0Vp-p (10msec. div.)



IC3501-30 PLAY
0.4Vp-p (5msec. div.)



IC3501-31 REC
0.3Vp-p (5msec. div.)

SYSTEM CONTROL & SERVO ICs DC VOLTAGE CHART (SP MODE)

Ref. No.	IC1501								IC1502											
MODE	1	2	3	4					1	2	3	4								
STOP	1.2	2.3	4.9	0.0					0.0	1.2	4.9	0.0								
PLAY	1.2	2.3	4.2	0.0					0.0	1.2	4.9	0.0								
REC	1.2	2.3	4.8	0.0					0.0	1.2	4.8	0.0								
F.F	1.2	2.3	2.2	0.0					0.0	1.2	2.4	0.0								
REW	1.2	2.3	2.4	0.0					0.0	1.2	2.3	0.0								

Ref. No.	IC2501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	16.8	16.8	16.8	4.9	4.9	1.2	1.1	0.0	2.7	1.5	0.0	4.1	4.1	3.7	0.0	16.8				
PLAY	14.9	14.9	15.2	1.1	4.9	1.1	1.2	0.6	2.4	1.5	0.0	3.8	3.8	3.8	0.0	14.9				
REC	15.1	15.1	15.4	1.0	4.9	1.1	1.2	0.6	2.4	1.5	0.0	3.8	3.8	3.8	0.0	15.1				
F.F	14.4	14.4	14.6	1.0	4.9	1.1	1.2	0.6	2.4	1.5	0.0	3.8	3.8	3.8	0.0	14.7				
REW	14.3	14.3	14.6	1.1	4.9	1.1	1.2	0.6	2.4	1.5	0.0	3.8	3.8	3.8	0.0	14.9				

Ref. No.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0.0	1.9	0.0	0.0	3.5	0.0	0.0	0.0	2.4	0.0	0.0	4.9	4.9	4.7	4.1	0.0	4.9	0.0	0.0	0.0
PLAY	4.7	1.8	0.0	0.0	3.9	0.0	0.0	0.0	2.4	0.0	4.3	4.9	4.9	4.6	0.1	0.0	0.0	0.0	0.0	0.0
REC	4.7	1.9	0.0	0.0	2.2	0.0	0.0	0.0	2.4	0.0	0.0	4.9	4.8	4.6	4.0	0.0	0.0	0.0	4.9	0.0
F.F	4.9	1.8	0.0	0.0	3.5	0.0	0.0	0.0	2.4	0.0	0.0	4.9	4.8	4.8	4.1	0.0	4.9	0.0	0.0	0.0
REW	4.9	1.8	0.0	0.0	3.4	0.0	0.0	0.0	2.4	0.0	0.0	4.9	4.9	4.6	4.1	0.0	4.9	0.0	0.0	0.0

Ref. No.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0.0	0.0	2.5	2.4	0.0	4.8	0.0	4.9	0.0	0.0	-	-	4.9	0.0	1.5	3.0	0.0	0.0	0.0	4.9
PLAY	2.4	0.0	4.9	2.4	2.4	4.8	0.0	0.0	0.0	0.0	-	-	4.9	0.0	1.5	3.0	4.9	0.0	0.0	4.9
REC	2.4	0.0	4.8	2.4	0.0	4.8	0.0	4.9	0.0	0.0	-	-	4.9	0.0	1.5	3.0	0.0	4.9	4.9	0.0
F.F	0.0	0.0	0.0	2.4	0.0	4.8	0.0	4.9	0.0	0.0	-	-	4.9	0.0	1.5	3.0	0.0	0.0	0.0	4.9
REW	0.0	0.0	0.0	2.4	0.0	4.8	0.0	4.9	0.0	0.0	-	-	4.9	0.0	1.5	3.0	0.0	0.0	0.0	4.9

Ref. No.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0.0	0.0	5.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	4.9	4.9	1.5	2.1	4.9	1.9	0.0	2.4	4.9	0.0
PLAY	0.0	0.0	5.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	4.9	4.9	1.5	2.1	4.9	1.9	0.0	2.4	4.9	0.0
REC	0.0	4.9	5.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	4.9	4.9	1.5	2.1	4.8	1.9	0.0	2.4	4.9	0.0
F.F	0.0	0.0	5.0	4.9	4.9	0.0	0.0	0.0	0.0	0.0	4.9	4.9	1.5	2.1	4.9	1.9	0.0	2.5	4.9	0.0
REW	0.0	0.0	5.0	4.9	4.9	0.0	0.0	0.0	0.0	0.0	4.9	4.9	1.5	2.1	4.9	1.9	0.0	2.4	4.9	0.0

Ref. No.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	1.9	2.1	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	4.9	4.9	0.0	0.0	0.0	5.2	5.2	0.0	0.0	2.7
PLAY	1.9	2.1	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	4.9	4.8	0.0	0.0	0.0	5.2	5.2	0.0	2.4	2.4
REC	1.9	2.1	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	4.9	4.8	0.0	0.0	0.0	5.2	5.2	0.0	2.4	2.4
F.F	1.9	2.1	0.0	0.0	0.0	0.0	0.0	0.4	1.6	0.0	4.9	4.8	0.0	0.0	0.0	5.2	5.2	0.0	2.9	2.4
REW	1.9	2.1	0.0	0.0	0.0	0.0	0.0	0.4	1.6	0.0	4.9	4.8	0.0	0.0	0.0	5.2	5.2	0.0	2.9	2.4

Ref. No.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	4.9	4.9	4.9	2.4	4.9	4.9	0.0	4.9	4.8	4.8	4.1	4.1
PLAY	0.0	0.4	0.0	0.0	0.3	0.0	0.0	0.0	4.9	4.9	4.9	2.4	4.1	4.8	0.0	4.9	4.8	4.8	4.2	4.1
REC	0.0	0.4	0.0	0.0	4.5	0.0	0.0	0.0	4.9	4.9	4.9	2.4	4.2	4.8	0.0	4.9	4.8	4.8	4.1	4.0
F.F	0.0	4.8	0.0	0.0	0.3	0.0	0.0	0.0	4.9	4.9	4.9	2.4	2.3	2.3	0.0	4.9	4.8	4.8	4.2	4.1
REW	0.0	4.8	4.9	0.0	0.3	0.0	0.0	0.0	4.9	4.9	4.9	2.4	2.2	2.3	0.0	4.9	4.8	4.8	4.2	4.1

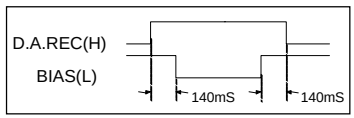
Ref. No.	IC6001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116				
STOP	0.0	0.0	2.5	2.5	0.0	0.0	4.9	2.5	2.5	0.0	2.5	2.5	2.5	2.5	4.9	4.9				
PLAY	0.0	0.0	2.5	2.5	0.0	0.0	1.1	2.5	2.5	0.0	2.5	2.5	2.5	2.5	4.9	4.9				
REC	0.0	0.0	2.4	2.4	0.0	0.0	1.0	2.4	2.4	0.0	1.9	2.3	2.5	2.5	4.9	4.9				
F.F	0.0	0.0	2.5	2.5	0.0	0.0	1.0	2.5	2.5	0.0	2.5	2.5	2.5	2.5	5.0	5.0				
REW	0.0	0.0	2.5	2.5	0.0	0.0	1.1	2.5	2.5	0.0	2.5	2.5	2.5	2.5	5.0	5.0				

Ref. No.	IC7702																			
MODE	1	2	3	4	5	6	7	8												
STOP	0.0	0.0	0.0	0.0	4.8	4.8	4.9	4.9												
PLAY	0.0	0.0	0.0	0.0	4.8	4.8	4.9	4.9												
REC	0.0	0.0	0.0	0.0	4.8	4.8	4.9	4.9												
F.F	0.0	0.0	0.0	0.0	4.8	4.8	4.9	4.9												
REW	0.0	0.0	0.0	0.0	4.8	4.8	4.9	4.9												

SYSTEM CONTROL & SERVO TRs DC VOLTAGE CHART (SP MODE)

Ref. No.	Q1501				Q1502				Q7705				QR6001				QR6006			
MODE	+	−			+	−			E	C	B		E	C	B		E	C	B	
STOP	4.7	0.0			4.9	0.0			1.2	4.9	1.9		0.0	0.0	4.9		0.0	0.0	4.9	
PLAY	4.7	0.0			4.9	0.0			1.3	4.9	1.9		0.0	12.3	0.0		0.0	0.0	4.8	
REC	4.6	0.0			4.8	0.0			1.2	4.9	1.9		0.0	0.0	4.9		0.0	0.0	4.8	
F.F	4.7	0.0			4.9	0.0			1.2	4.9	1.9		0.0	0.0	4.9		0.0	0.0	4.8	
REW	4.9	0.0			4.9	0.0			1.2	4.9	1.9		0.0	0.0	4.9		0.0	0.0	4.8	

No.	Port Name	I/O	Description	P-OFF	P-Save	P-FAIL	Reset
1	CURRENT_LIMIT	O	Capstan motor current limit terminal.	Low	Low	Low	Low
2	F ADJUST	O	Analogue voltage output for HEAD frequency response adjustment	Low	Low	Low	Low
3	N.C.	--	Low fix (No Connection.)	Low	Low	Low	Low
4	C EMPHA(H)	O	Terminal of the Current emphasis video/FM audio recording current. [HIFI/2HEAD]:Fix to Low (Normal mode) [4HEAD] :Fix to Low (factory mode) Fix to High (Insert/AV Insert mode) Others (Depend on tape speed)	Low	Low	Low	Low
5	TRACKING_ENVE	O	Playback envelope input for auto tracking adjustment and cvc.	In	In	In	In
6	SLP(H)	O	Tape running speed output terminal.(Output signal depens on tape speed) [High]……During NTSC_10H or PAL_9H mode [Low]……Except NTSC_10H or PAL_9H mode	Low	Low	Low	Low
7	LP(H)	O	Tape running speed output terminal.(Output signal depens on tape speed) [High]……During NTSC_4H/6H or PAL_6H/9H mode [Low]……Except NTSC_4H/6H or PAL_6H/9H mode 2HEAD model: Low Fix	Low	Low	Low	Low
8	CPB	I	Input terminal for "PB (H)" from AV2. [High]…….3.85V - 5.0V [Midd]…….1.82V - 2.84V [Low]……. 0V - 0.81V	In	In	In	In
9	AFC S	I	"S-curve" Input terminal from tuner.	In	In	In	In
10	A-MUTE(H)	O	Audio mute output terminal for RF Converter.	High	High	Low	High
11	AV1_8IN	I	Input terminal for "PB (H)" from AV1. [High]…….3.85V - 5.0V [Midd]…….1.82V - 2.84V [Low]……. 0V - 0.81V	In	In	In	In
12	N/S/T2/T3	I	Mode select terminal [NORMAL mode]: More than 4.0V [SERVICE mode]: 2.5V - 4.0V [TEST_2 mode]: 1.0V - 2.5V [TEST_3 mode]: 0V - 1.0V	In	In	In	In
13	S-PHOTO	I	Tape end sensor input terminal.(Photo sensor input from supply side) [Black Tape]: more than 2.6V [Lead Tape]: Less than 2.4V	In	In	In	In
14	T-PHOTO	I	Tape beginning sensor input terminal.(Photo sensor input from take-up side) [Black Tape]: more than 2.6V [Lead Tape]: Less than 2.4V	In	In	In	In
15	ABS_NORM(H)	I	(Input terminal for FM audio enverope output level detection)	In	In	In	In
16	N.C	--	Low fix (No Connection.)	Low	Low	Low	Low
17	PLAY_REC(L)	O	Output terminal for switching the capstan voltage. [Other than PLAY/REC mode]……Always "High". [JOG/Shuttle mode in PLAY mode]……Always "High". After 5 seconds from PLAY/REC mode completion, it changes to "Low". During "Low" outputs, it checks every main capstan FG, when the no FG is inputted in a rotation, it changes to "High" and it keeps "high" by cassette ejection.	Low	Low	Low	Low
18	VSYNC(L)	O	Output terminal for V_sync detection result. [Vsync exist] : "Low" [Vsync not exist: "High"	Low	Low	Low	Low
19	D.FM.REC(H)	O	Timing output terminal for FM_Audio recording current.	Low	Low	Low	Low
20	ART.V/H/N	O	Output terminal for Artificial V synchronization signal.	Low	Low	Low	Low

No.	Port Name	I/O	Description	P-OFF	P-Save	P-FAIL	Reset
21	ROTARY.SW	O	Output terminal for rotary switch.	Low	Low	Low	Low
22	H.A.SW	O	Output terminal for HEAD AMP switch.	Low	Low	Low	Low
23	ENVE.SELECT	I	Input terminal for enverope selection.	Low	Low	Low	Low
24	VIDEO.H.SW	O	Output terminal for video HEAD switch.	Low	Low	Low	Low
25	A.H.SW	O	Output terminal for FM audio HEAD switch.	Low	Low	Low	Low
26	A.DEF(H)	O	Audio Mute output terminal for tuner and decoder. [High].....During VCR mode is NORMAL PLAY and VV mode.	Low	Low	Low	Low
27	PROG.ON(H)	O	I/O control to switch IIC bus for LW-programmer. H:IIC bus is connected to AV2. L:IIC bus is not connected to AV2.	Low	Low	Low	Low
28	AVPB-H(L)	O	"PB-(H)"output terminal for AV2 *Details, refer to 21pin control specifications. *The signal output from Pin-8 of 21pin terminal is shown below. pin8 \ Name / AVPB-H(L) / AVPBM-(H) High / L / Hi-Z Middle / H / Hi-Z Low / H / L	High	High	Low	High
29	AVPB-M(H)	O		Low	Low	Low	Low
30	GND(D)	--	GND	---	---	---	---
31	20MHz.IN	I	Main oscillator input	---	STOP	STOP	---
32	20MHz.OUT	O	Main oscillator output	---	STOP	STOP	---
33	+5V(D)	I	5V input terminal	---	---	---	---
34	32KHz IN	I	Sub oscillator input	---	---	---	---
35	32KHz OUT	O	Sub oscillator output	---	---	---	---
36	VCONT	I	Video Control	---	---	---	---
37	V EE(L)	O	Output terminal for switch between EE and VV.	Low	Low	Low	Low
38	D REC(H)	O	Output terminal for video recording current control.	Low	Low	Low	Low
39	D.A.REC(H)	O	Control terminal for normal audio recording current.	Low	Low	Low	Low
40	BIAS(L)	O	Bias oscillation Control terminal for Linear audio recording current. 	High	Hi-Z	Hi-Z	High
41	FM.MUTE(H)	O	Output terminal for audio mute control.	High	High	Low	High
42	FULL ERASE(H)	O	Output terminal for control FULL ERASE HEAD.	Low	Low	Low	Low
43	POWER_KEY	I	Input terminal for the unit power button. It switches ON to OFF and/or OFF to ON when down edge is detected.	In	In	In	In
44	POS.SW3	I	Input terminal for mecha position.	In	In	In	In
45	POS.SW2	I	Input terminal for mecha position.	In	In	In	In
46	POS.SW1	I	Input terminal for mecha position.	In	In	In	In
47	POWER OFF(H)	O	ON/OFF Control terminal for power circuit. Power off condition: "High" is existed. ("Low" is existed when the mechanism and/or circuit operation is activated.)	High	High	Low	High
48	FIP(L)	O	Output terminal for FIP on/off control signal. ("Low" is existed when the power off condition under the "FIP OFF" setting.)	Not fix	High	Low	Low
49	P50 IN	I	Input terminal for Project 50 serial signal.	In	In	In	In
50	LC.OSC IN	I	The oscillation input terminal for OSD dot clock.	---	---	---	---

No.	Port Name	I/O	Description	P-OFF	P-Save	P-FAIL	Reset
51	LC.OSC OUT	O	The oscillation output terminal for OSD dot clock.	---	---	---	---
52	RESET(L)	I	Input terminal for microprocessor reset.	In	In	In	In
53	4FC.LPF	I	4fc clock input terminal	---	---	---	---
54	OSD.FSC IN	I	OSD clock input terminal	---	---	---	---
55	5V(OSD)	I	5V input terminal	---	---	---	---
56	CVIN	I	Input terminal for Composite video signal.	---	---	---	---
57	GND(OSD)	--	GND	---	---	---	---
58	LECHA	I	Input terminal for Composite video signal.(White level)	---	---	---	---
59	20M.START(H)	I	Switching terminal for stertting Mode.(High speed/Low speed)	---	---	---	---
60	MD0	I	Mode setting terminal for flash over-write.	---	---	---	---
61	CVOUT	O	Output terminal for CG Video.	---	---	---	---
62	HLF	O	LPF connecting terminal for the slicer. (For OSD dot clock.)	---	---	---	---
63	SECAM.V.IN	I	Chrominance input terminal for SECAM super impose.	---	---	---	---
64	GND	--	Connect to GND	In	In	In	In
65	S TAB(L)	I	Input terminal for the prevention tab. [EXIST] :LOW [NO EXIST] :HIGH	In	In	In	In
66	UNLOADING(H)	O	Control terminal for loading motor. [Reverse rotation / brake] : "High"	Low	Low	Low	Low
67	LOADING(H)	O	Control terminal for loading motor. [forward rotation / brake] : "High"	Low	Low	Low	Low
68	C.SYNC	I	Input terminal for composite V-sync signal.	In	In	In	In
69	EX.FF/REW(L)	I	Filter control terminal for PB-CTL signal in FF/REW.	Low	Low	Low	Low
70	PAL-I/BG/DK(SYS4)	O	Output terminal for TV broadcast system switching signal for video circuit control.	Not fix	Low	Low	Low
71	SECAM/PAL(SYS2)	O	Output terminal for TV broadcast system switching signal for video circuit control.	Not fix	Low	Low	Low
72	SLEEP(L)	O	Output terminal for super power save mode setting. P-OFF in the super power save mode…… "Low".	High	Low	Low	High
73	PB60Hz(H)	O	Switching terminal for NTSC FM Audio trap filter in PB. [VV (PB,Trick_PB/A-DUB, A-DUB-PS) mode and CTL is 60Hz] : "High" [Other than above condition] : "Low"	Low	Low	Low	Low
74	ADUB(H)	O	Switching terminal for Bias oscillation noise filter in A-DUB mode. [ADUB/ADUB-PS(Including Assemble/syncro/AV-Insert)] : "High" [Other than above condition] : "Hi-Z"	Hi-Z	Hi-Z	Hi-Z	Hi-Z
75	N.C(VBI1)	--	Fix to Low.	Low	Low	Low	Low
76	P FAIL	I	Input terminal for Interrupt signal for power fail detection.	In	In	In	In
77	IR	I	Input terminal for Interrupt signal from IR sensor emitted by Remo-Con.	In	In	In	In
78	P50 OUT	O	Output terminal for Project 50 serial data.	Not fix	Low	Low	Low
79	CAP.ET	O	Output terminal for Capstan Torque command.	0V	0V	Low	0V
80	CYL.ET	O	Output terminal for Cylinder Torque command.	4.213V	4.213V	Low	4.213V
81	DIGI.LINK	O	Control signal for switching IR sensor.[only LOEWE model]	Low	Low	Low	Low
82	HALF_WAVE(H)	O	Switching terminal for capstan driver speed mode.(FAST/SLOW)	In	In	In	In
83	CAP.R/F	O	Switching terminal for capstan motor rotating direction.	Low	Low	Low	Low
84	125Hz	O	125Hz pulse output terminal for clock adjustment.	Not fix	Low	Low	Low
85	SHORT_DN	I	Short Circuit detection terminal for oscillation circuit in REC. *When the "BIAS(H)" is "Low" and this terminal is "High", "F08" is displayed. *When the "BIAS(H)" is "High" and this terminal is "low", "F07" is displayed.	In	In	In	In
86	N.C	--	Fix to Low.	Low	Low	Low	Low
87	N.C	--	Fix to Low.	Low	Low	Low	Low
88	N.C	--	Fix to Low.	Low	Low	Low	Low
89	FLD/T2 CLK	O	Serial clock output terminal for FIP driver and TEST_2(Factory use).	Not fix	Low	Low	Low
90	FLD/T2 DATA IN	I	Serial data input terminal for FIP driver and TEST_2(Factory use).	Not fix	In	In	In

No.	Port Name	I/O	Description	P-OFF	P-Save	P-FAIL	Reset
91	FLD/T2 DATA OUT	O	Serial data output terminal for FIP driver and TEST_2(Factory use).	Not fix	Low	Low	Low
92	FLD_CS	O	Chip select terminal for FIP driver.	Not fix	Low	Low	Low
93	T.REEL.PULSE	I	Input terminal for Take-up Reel sensor pulse.	In	In	In	In
94	S.REEL.PULSE	I	Input terminal for Supply Reel sensor pulse.	In	In	In	In
95	DAVN	I	DAVN signal from Slicer	In	In	In	In
96	EEP_WR	O	Write enable for EEPROM H:READ only L:Write	High	High	Low	High
97	OSD IIC CLK	O	IIC clock for EEPROM,I/O and slicer	Not fix	Low	Low	Low
98	OSD IIC DATA	I/O	IIC data for EEPROM,I/O and slicer	Not fix	Low	Low	Low
99	MAIN IIC CLK	O	IIC clock for AV1CHIP,FM audio,Tuner,Decoder and RFC	Not fix	Low	Low	Low
100	MAIN IIC DATA	I/O	IIC data for AV1CHIP,FM audio,Tuner,Decoder and RFC	Not fix	Low	Low	Low
101	N.C	--	Low fix terminal.	Low	Low	Low	Low
102	N.C	--	Low fix terminal.	Low	Low	Low	Low
103	FG.AMP.OUT	O	Output from internal FG Amplifier	---	---	---	---
104	FG.AMP.IN	I	Input for internal FG Amplifier	---	---	---	---
105	GND(A)	--	GND	---	---	---	---
106	GND	--	GND	---	---	---	---
107	PFG	I	Cylinder PG/FG input terminal	---	---	---	---
108	OREF	O	Output from internal reference voltage (2.5V)	---	---	---	---
109	IREF	I	Input for internal reference voltage	---	---	---	---
110	to GND	--	Connect to GND	---	---	---	---
111	CTL.HEAD(-)	I	Input signal from CTL HEAD(+)	---	---	---	---
112	CTL.HEAD(+)	I	Input signal from CTL HEAD(-)	---	---	---	---
113	CTL.AMP.REF	I	Input for internal CTL amplifier reference voltage	---	---	---	---
114	PB.CTL.OUT	O	Output from internal CTL amplifier	---	---	---	---
115	+5V(A)	I	5V input terminal	---	---	---	---
116	+5V(AD)	I	5V input terminal	---	---	---	---

INPUT CONDITION							VIDEO OUTPUT RESULT							AUDIO OUTPUT RESULT				
POWER	AV2 SELECT	TV/ VTR	EE/ VV	OSD ON(H)	INPUT CH	AV2 PB(H)	AV1 OUT	AV2 OUT	AV1 PB(H)	AV2 PB(H)	RGB SW	VCR IN	VCR OUT	AV1 Out	AV2 Out	RF (C)	AV1 Out Selector	AV2 Out Selector
OFF	---	---	---	---	---	L	AV2 In	AV1 In	L	L	OFF	TUN	TUN	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	TUN	TUN	AV2 In	AV1 In	Mute	AV2 In	AV1 In
VPS STAND BY or Personal Planner Standby	EXT or TIMER1 or TIMER2	---	---	L	NO.TU	L	AV2 In	AV1 In	L	L	OFF	TUN	TUN	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	*[M/H]	L	ON	TUN	TUN	AV2 In	AV1 In	Mute	AV2 In	AV1 In
					C+.TU	L	AV2 In	AV1 In	L	L	OFF	TUN	TUN	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	*[M/H]	L	ON	TUN	TUN	AV2 In	AV1 In	Mute	AV2 In	AV1 In
					AV1	L	AV2 In	AV1 In	L	L	OFF	AV1	AV1	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	*[M/H]	L	ON	AV1	AV1	AV2 In	AV1 In	Mute	AV2 In	AV1 In
					AV2	L	AV2 In	AV1 In	L	L	OFF	AV2	AV2	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	*[M/H]	L	ON	AV2	AV2	AV2 In	AV1 In	Mute	AV2 In	AV1 In
					AV3	L	AV2 In	AV1 In	L	L	OFF	AV3	AV3	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	*[M/H]	L	ON	AV3	AV3	AV2 In	AV1 In	Mute	AV2 In	AV1 In
					SAT.NO	L	AV2 In	AV1 In	L	L	OFF	SAT	SAT	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	*[M/H]	L	ON	SAT	SAT	AV2 In	AV1 In	Mute	AV2 In	AV1 In
					SAT.C+	L	AV2 In	AV1 In	L	L	OFF	SAT	SAT	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	*[M/H]	L	ON	SAT	SAT	AV2 In	AV1 In	Mute	AV2 In	AV1 In
				H	NO.TU	L	VCR out	AV1 In	H	H	OFF	TUN	TUN	Mute	Mute	Mute	TUN	AV1 In
						M/H	VCR out	AV1 In	H	H	OFF	TUN	TUN	Mute	Mute	Mute	TUN	AV1 In
					C+.TU	L	VCR out	AV1 In	H	H	OFF	TUN	TUN	Mute	Mute	Mute	TUN	AV1 In
						M/H	VCR out	AV1 In	H	H	OFF	TUN	TUN	Mute	Mute	Mute	TUN	AV1 In
					AV1	L	VCR out	AV1 In	H	H	OFF	AV1	AV1	Mute	Mute	Mute	AV1 In	AV1 In
						M/H	VCR out	AV1 In	H	H	OFF	AV1	AV1	Mute	Mute	Mute	AV1 In	AV1 In
					AV2	L	VCR out	AV1 In	H	H	OFF	AV2	AV2	Mute	Mute	Mute	AV2 In	AV1 In
						M/H	VCR out	AV1 In	H	H	OFF	AV2	AV2	Mute	Mute	Mute	AV2 In	AV1 In
					AV3	L	VCR out	AV1 In	H	H	OFF	AV3	AV3	Mute	Mute	Mute	AV3 In	AV1 In
						M/H	VCR out	AV1 In	H	H	OFF	AV3	AV3	Mute	Mute	Mute	AV3 In	AV1 In
					SAT.NO	L	VCR out	AV1 In	H	H	OFF	SAT	SAT	Mute	Mute	Mute	SAT	AV1 In
						M/H	VCR out	AV1 In	H	H	OFF	SAT	SAT	Mute	Mute	Mute	SAT	AV1 In
					SAT.C+	L	VCR out	AV1 In	H	H	OFF	SAT	SAT	Mute	Mute	Mute	SAT	AV1 In
						M/H	VCR out	AV1 In	H	H	OFF	SAT	SAT	Mute	Mute	Mute	SAT	AV1 In
	DECODER	---	---	L	NO.TU	L	AV2 In	AV1 In	L	L	OFF	TUN	TUN	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	TUN	TUN	AV2 In	AV1 In	Mute	AV2 In	AV1 In
					C+.TU	L	AV2 In	AV1 In	L	L	OFF	TUN	TUN	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	TUN	TUN	AV2 In	AV1 In	Mute	AV2 In	AV1 In
					AV1	L	AV2 In	AV1 In	L	L	OFF	AV1	AV1	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	AV2	AV2	AV2 In	AV1 In	Mute	AV2 In	AV1 In
					AV2	L	AV2 In	AV1 In	L	L	OFF	AV2	AV2	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	AV2	AV2	AV2 In	AV1 In	Mute	AV2 In	AV1 In
					AV3	L	AV2 In	AV1 In	L	L	OFF	AV3	AV3	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	AV3	AV3	AV2 In	AV1 In	Mute	AV2 In	AV1 In
					SAT.NO	L	AV2 In	AV1 In	L	L	OFF	SAT	SAT	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	SAT	SAT	AV2 In	AV1 In	Mute	AV2 In	AV1 In
					SAT.C+	L	AV2 In	AV1 In	L	L	OFF	SAT	SAT	AV2 In	AV1 In	Mute	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	SAT	SAT	AV2 In	AV1 In	Mute	AV2 In	AV1 In
				H	NO.TU	L	VCR out	AV1 In	H	L	OFF	TUN	TUN	Mute	Mute	Mute	TUN	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	TUN	TUN	Mute	Mute	Mute	TUN	AV1 In
					C+.TU	L	VCR out	AV1 In	H	L	OFF	TUN	TUN	Mute	Mute	Mute	TUN	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	TUN	TUN	Mute	Mute	Mute	TUN	AV1 In
					AV1	L	VCR out	AV1 In	H	L	OFF	AV1	AV1	Mute	Mute	Mute	AV1 In	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	AV2	AV2	Mute	Mute	Mute	AV2 In	AV1 In
					AV2	L	VCR out	AV1 In	H	L	OFF	AV2	AV2	Mute	Mute	Mute	AV2 In	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	AV2	AV2	Mute	Mute	Mute	AV2 In	AV1 In
					AV3	L	VCR out	AV1 In	H	L	OFF	AV3	AV3	Mute	Mute	Mute	AV3 In	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	AV3	AV3	Mute	Mute	Mute	AV3 In	AV1 In
					SAT.NO	L	VCR out	AV1 In	H	L	OFF	SAT	SAT	Mute	Mute	Mute	SAT	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	SAT	SAT	Mute	Mute	Mute	SAT	AV1 In
					SAT.C+	L	VCR out	AV1 In	H	L	OFF	SAT	SAT	Mute	Mute	Mute	SAT	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	SAT	SAT	Mute	Mute	Mute	SAT	AV1 In

INPUT CONDITION							VIDEO OUTPUT RESULT							AUDIO OUTPUT RESULT				
POWER	AV2 SELECT	TV/ VTR	EE/ VV	OSD ON(H)	INPUT CH	AV2 PB(H)	AV1 OUT	AV2 OUT	AV1 PB(H)	AV2 PB(H)	RGB SW	VCR IN	VCR OUT	AV1 Out	AV2 Out	RF (C)	AV1 Out Selector	AV2 Out Selector
P.ON	EXT	TV	EE	L	NO.TU	---	VCR out	VCR out	L	L	OFF	TUN	TUN	TUN	TUN	TUN	TUN	INSEL
					C+.TU	---	VCR out	VCR out	L	L	OFF	TUN	TUN	TUN	TUN	TUN	TUN	INSEL
	or				AV1	---	VCR out	VCR out	L	L	OFF	AV1	AV1	AV1 In	AV1 In	AV1 In	AV1 In	INSEL
					AV2	---	VCR out	VCR out	L	L	ON	AV2	AV2	AV2 In	AV2 In	AV2 In	AV2 In	INSEL
	TIMER1				AV3	---	VCR out	VCR out	L	L	OFF	AV3	AV3	AV3 In	AV3 In	AV3 In	AV3 In	INSEL
					SAT.NO	---	VCR out	VCR out	L	L	OFF	SAT	SAT	SAT	SAT	SAT	SAT	INSEL
	or				SAT.C+	---	VCR out	VCR out	L	L	OFF	SAT	SAT	SAT	SAT	SAT	SAT	INSEL
				H	NO.TU	---	VCR out	VCR out	H	H	OFF	TUN	TUN	TUN	TUN	TUN	TUN	INSEL
	TIMER2				C+.TU	---	VCR out	VCR out	H	H	OFF	TUN	TUN	TUN	TUN	TUN	TUN	INSEL
					AV1	---	VCR out	VCR out	H	H	OFF	AV1	AV1	AV1 In	AV1 In	AV1 In	AV1 In	INSEL
					AV2	---	VCR out	VCR out	H	H	OFF	AV2	AV2	AV2 In	AV2 In	AV2 In	AV2 In	INSEL
					AV3	---	VCR out	VCR out	H	H	OFF	AV3	AV3	AV3 In	AV3 In	AV3 In	AV3 In	INSEL
					SAT.NO	---	VCR out	VCR out	H	H	OFF	SAT	SAT	SAT	SAT	SAT	SAT	INSEL
					SAT.C+	---	VCR out	VCR out	H	H	OFF	SAT	SAT	SAT	SAT	SAT	SAT	INSEL
		VTR	EE	L	NO.TU	---	VCR out	VCR out	H	H	OFF	TUN	TUN	TUN	TUN	TUN	TUN	INSEL
					C+.TU	---	VCR out	VCR out	H	H	OFF	TUN	TUN	TUN	TUN	TUN	TUN	INSEL
					AV1	---	VCR out	VCR out	H	H	OFF	AV1	AV1	AV1 In	AV1 In	AV1 In	AV1 In	INSEL
					AV2	L	VCR out	VCR out	H	H	ON	AV2	AV2	AV2 In	AV2 In	AV2 In	AV2 In	INSEL
						M/H	VCR out	VCR out	M/H	M/H	ON	AV2	AV2	AV2 In	AV2 In	AV2 In	AV2 In	INSEL
					AV3	---	VCR out	VCR out	H	H	OFF	AV3	AV3	AV3 In	AV3 In	AV3 In	AV3 In	INSEL
					SAT.NO	---	VCR out	VCR out	H	H	OFF	SAT	SAT	SAT	SAT	SAT	SAT	INSEL
					SAT.C+	---	VCR out	VCR out	H	H	OFF	SAT	SAT	SAT	SAT	SAT	SAT	INSEL
				H	NO.TU	---	VCR out	VCR out	H	H	OFF	TUN	TUN	TUN	TUN	TUN	TUN	INSEL
					C+.TU	---	VCR out	VCR out	H	H	OFF	TUN	TUN	TUN	TUN	TUN	TUN	INSEL
P.ON	EXT	VTR	EE	H	AV1	---	VCR out	VCR out	H	H	OFF	AV1	AV1	AV1 In	AV1 In	AV1 In	AV1 In	INSEL
					AV2	---	VCR out	VCR out	H	H	OFF	AV2	AV2	AV2 In	AV2 In	AV2 In	AV2 In	INSEL
					AV3	---	VCR out	VCR out	H	H	OFF	AV3	AV3	AV3 In	AV3 In	AV3 In	AV3 In	INSEL
					SAT.NO	---	VCR out	VCR out	H	H	OFF	SAT	SAT	SAT	SAT	SAT	SAT	INSEL
					SAT.C+	---	VCR out	VCR out	H	H	OFF	SAT	SAT	SAT	SAT	SAT	SAT	INSEL
			VV	---	NO.TU	---	VCR out	VCR out	M/H	M/H	OFF	TUN	PB	PB	PB	PB	TUN	INSEL
					C+.TU	---	VCR out	VCR out	M/H	M/H	OFF	TUN	PB	PB	PB	PB	TUN	INSEL
					AV1	---	VCR out	VCR out	M/H	M/H	OFF	AV1	PB	PB	PB	PB	AV1 In	INSEL
					AV2	---	VCR out	VCR out	M/H	M/H	OFF	AV2	PB	PB	PB	PB	AV2 In	INSEL
					AV3	---	VCR out	VCR out	M/H	M/H	OFF	AV3	PB	PB	PB	PB	AV3 In	INSEL
					SAT.NO	---	VCR out	VCR out	M/H	M/H	OFF	SAT	PB	PB	PB	PB	SAT	INSEL
					SAT.C+	---	VCR out	VCR out	M/H	M/H	OFF	SAT	PB	PB	PB	PB	SAT	INSEL
	DECODER	TV	EE	L	NO.TU	L	VCR out	AV1 In	L	L	OFF	TUN	TUN	TUN	AV1 In	TUN	TUN	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	TUN	TUN	AV2 In	AV1 In	TUN	AV2 In	AV1 In
					C+.TU	L	VCR out	TUN IN	L	L	OFF	TUN	TUN	TUN	TUN	TUN	TUN	TUN
						M/H	VCR out	TUN IN	L	L	OFF	AV2	AV2	AV2 In	TUN	AV2 In	AV2 In	TUN
					AV1	L	VCR out	AV1 In	L	L	OFF	AV1	AV1	AV1 In	AV1 In	AV1 In	AV1 In	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	AV2	AV2	AV2 In	AV1 In	AV2 In	AV2 In	AV1 In
					AV2	L	VCR out	AV1 In	L	L	ON	AV2	AV2	AV2 In	AV1 In	AV2 In	AV2 In	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	AV2	AV2	AV2 In	AV1 In	AV2 In	AV2 In	AV1 In
					AV3	L	VCR out	AV1 In	L	L	OFF	AV3	AV3	AV3 In	AV1 In	AV3 In	AV3 In	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	AV3	AV3	AV2 In	AV1 In	AV3 In	AV2 In	AV1 In
					SAT.NO	L	VCR out	AV1 In	L	L	OFF	SAT	SAT	SAT	AV1 In	SAT	SAT	AV1 In
						M/H	AV2 In	AV1 In	M/H	L	ON	SAT	SAT	AV2 In	AV1 In	SAT	AV2 In	AV1 In
					SAT.C+	L	VCR out	SAT IN	L	L	OFF	SAT	SAT	SAT	SAT	SAT	SAT	TUN
						M/H	VCR out	SAT IN	L	L	OFF	AV2	AV2	AV2 In	SAT	AV2 In	AV2 In	TUN
				H	NO.TU	L	VCR out	AV1 In	H	L	OFF	TUN	TUN	TUN	AV1 In	TUN	TUN	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	TUN	TUN	TUN	AV1 In	TUN	TUN	AV1 In
					C+.TU	L	VCR out	TUN IN	H	L	OFF	TUN	TUN	TUN	TUN	TUN	TUN	TUN
						M/H	VCR out	TUN IN	H	L	OFF	AV2	AV2	AV2 In	TUN	AV2 In	AV2 In	TUN
					AV1	L	VCR out	AV1 In	H	L	OFF	AV1	AV1	AV1 In	AV1 In	AV1 In	AV1 In	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	AV2	AV2	AV2 In	AV1 In	AV2 In	AV2 In	AV1 In
					AV2	L	VCR out	AV1 In	H	L	OFF	AV2	AV2	AV2 In	AV1 In	AV2 In	AV2 In	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	AV2	AV2	AV2 In	AV1 In	AV2 In	AV2 In	AV1 In
					AV3	L	VCR out	AV1 In	H	L	OFF	AV3	AV3	AV3 In	AV1 In	AV3 In	AV3 In	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	AV3	AV3	AV3 In	AV1 In	AV3 In	AV3 In	AV1 In
					SAT.NO	L	VCR out	AV1 In	H	L	OFF	SAT	SAT	SAT	AV1 In	SAT	SAT	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	SAT	SAT	SAT	AV1 In	SAT	SAT	AV1 In
					SAT.C+	L	VCR out	SAT IN	H	L	OFF	SAT	SAT	SAT	SAT	SAT	SAT	SAT
						M/H	VCR out	SAT IN	H	L	ON	AV2	AV2	AV2 In	SAT	AV2 In	AV2 In	SAT

INPUT CONDITION							VIDEO OUTPUT RESULT							AUDIO OUTPUT RESULT				
POWER	AV2 SELECT	TV/ VTR	EE/ VV	OSD ON(H)	INPUT CH	AV2 PB(H)	AV1 OUT	AV2 OUT	AV1 PB(H)	AV2 PB(H)	RGB SW	VCR IN	VCR OUT	AV1 Out	AV2 Out	RF (C)	AV1 Out Selector	AV2 Out Selector
P.ON	DECODER	VTR	EE	L	NO.TU	L	VCR out	AV1 In	H	L	OFF	TUN	TUN	TUN	AV1 In	TUN	TUN	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	TUN	TUN	TUN	AV1 In	TUN	TUN	AV1 In
					C+.TU	L	VCR out	TUN IN	H	L	OFF	TUN	TUN	TUN	TUN	TUN	TUN	TUN
						M/H	VCR out	TUN IN	M/H	L	ON	AV2	AV2	AV2 In	TUN	AV2 In	AV2 In	TUN
					AV1	L	VCR out	AV1 In	H	L	OFF	AV1	AV1	AV1 In	AV1 In	AV1 In	AV1 In	AV1 In
						M/H	VCR out	AV1 In	M/H	L	ON	AV2	AV2	AV2 In	AV1 In	AV2 In	AV2 In	AV1 In
					AV2	L	VCR out	AV1 In	H	L	ON	AV2	AV2	AV2 In	AV1 In	AV2 In	AV2 In	AV1 In
						M/H	VCR out	AV1 In	M/H	L	ON	AV2	AV2	AV2 In	AV1 In	AV2 In	AV2 In	AV1 In
					AV3	L	VCR out	AV1 In	H	L	OFF	AV3	AV3	AV3 In	AV1 In	AV3 In	AV3 In	AV1 In
						M/H	VCR out	AV1 In	M/H	L	OFF	AV3	AV3	AV3 In	AV1 In	AV3 In	AV3 In	AV1 In
					SAT.NO	L	VCR out	AV1 In	H	L	OFF	SAT	SAT	SAT	AV1 In	SAT	SAT	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	SAT	SAT	SAT	AV1 In	SAT	SAT	AV1 In
					SAT.C+	L	VCR out	SAT IN	H	L	OFF	SAT	SAT	SAT	SAT	SAT	SAT	SAT
						M/H	VCR out	SAT IN	M/H	L	ON	AV2	AV2	AV2 In	SAT	AV2 In	AV2 In	SAT
				H	NO.TU	L	VCR out	AV1 In	H	L	OFF	TUN	TUN	TUN	AV1 In	TUN	TUN	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	TUN	TUN	TUN	AV1 In	TUN	TUN	AV1 In
					C+.TU	L	VCR out	TUN IN	H	L	OFF	TUN	TUN	TUN	TUN	TUN	TUN	TUN
						M/H	VCR out	TUN IN	H	L	OFF	AV2	AV2	AV2 In	TUN	AV2 In	AV2 In	TUN
					AV1	L	VCR out	AV1 In	H	L	OFF	AV1	AV1	AV1 In	AV1 In	AV1 In	AV1 In	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	AV2	AV2	AV2 In	AV1 In	AV2 In	AV2 In	AV1 In
					AV2	L	VCR out	AV1 In	H	L	OFF	AV2	AV2	AV2 In	AV1 In	AV2 In	AV2 In	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	AV2	AV2	AV2 In	AV1 In	AV2 In	AV2 In	AV1 In
					AV3	L	VCR out	AV1 In	H	L	OFF	AV3	AV3	AV3 In	AV1 In	AV3 In	AV3 In	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	AV3	AV3	AV3 In	AV1 In	AV3 In	AV3 In	AV1 In
					SAT.NO	L	VCR out	AV1 In	H	L	OFF	SAT	SAT	SAT	AV1 In	SAT	SAT	AV1 In
						M/H	VCR out	AV1 In	H	L	OFF	SAT	SAT	SAT	AV1 In	SAT	SAT	AV1 In
					SAT.C+	L	VCR out	SAT IN	H	L	OFF	SAT	SAT	SAT	SAT	SAT	SAT	SAT
						M/H	VCR out	SAT IN	H	L	OFF	AV2	AV2	AV2 In	SAT	AV2 In	AV2 In	SAT
			VV	---	NO.TU	L	VCR out	AV1 In	M/H	L	OFF	TUN	PB	PB	AV1 In	PB	TUN	AV1 In
						M/H	VCR out	AV1 In	M/H	L	OFF	TUN	PB	PB	AV1 In	PB	TUN	AV1 In
					C+.TU	L	VCR out	TUN IN	M/H	L	OFF	TUN	PB	PB	TUN	PB	TUN	TUN
						M/H	VCR out	TUN IN	M/H	L	OFF	AV2	PB	PB	TUN	PB	AV2 In	TUN
					AV1	L	VCR out	AV1 In	M/H	L	OFF	AV1	PB	PB	AV1 In	PB	AV1 In	AV1 In
						M/H	VCR out	AV1 In	M/H	L	OFF	AV2	PB	PB	AV1 In	PB	AV2 In	AV1 In
					AV2	L	VCR out	AV1 In	M/H	L	OFF	AV2	PB	PB	AV1 In	PB	AV2 In	AV1 In
						M/H	VCR out	AV1 In	M/H	L	OFF	AV2	PB	PB	AV1 In	PB	AV2 In	AV1 In
					AV3	L	VCR out	AV1 In	M/H	L	OFF	AV3	PB	PB	AV1 In	PB	AV3 In	AV1 In
						M/H	VCR out	AV1 In	M/H	L	OFF	AV3	PB	PB	AV1 In	PB	AV3 In	AV1 In
					SAT.NO	L	VCR out	AV1 In	M/H	L	OFF	SAT	PB	PB	AV1 In	PB	SAT	AV1 In
						M/H	VCR out	AV1 In	M/H	L	OFF	SAT	PB	PB	AV1 In	PB	SAT	AV1 In
					SAT.C+	L	VCR out	SAT IN	M/H	L	OFF	SAT	PB	PB	SAT	PB	SAT	SAT
						M/H	VCR out	SAT IN	M/H	L	OFF	AV2	PB	PB	SAT	PB	AV2 In	SAT

NOTE: NO.TU: Tuner position, DECODER OFF (e.g. ARD) RGB SW : OFF = HIGH, ON=LOW

C+TU: Tuner position, DECODER ON (e.g. PREMI) EE : Non-Playback signal VV:Playback signal

***[M/H] :In case of Personal Planner standby(not External Link), AV1 PB must not output 'M' or 'H'**

443NT [L]	4.43 NTSC Ⓛ
A. COMP	AUDIO COMPONENT SIGNAL
A. COMPO	AUDIO COMPONENT SIGNAL
A. D.P [L]	AUDIO DUBBING PAUSE Ⓛ
A. D/L [L]	AUDIO DUBBING PAUSE Ⓛ
A. DEF [S]	AUDIO DEFEAT
A. DEF [S] [L]	AUDIO DEFEAT
A. DUB P [L]	AUDIO DUBBING PAUSE Ⓛ
A. DUB [H]	AUDIO DUBBING Ⓗ
A. ERASE	AUDIO ERASE
A. H. SW	AUDIO HEAD SWITCHING PULSE
A. HEAD [R]	AUDIO HEAD (REC)
A. HEAD [W]	AUDIO HEAD (PLAY)
A. IN [L]	AUDIO INPUT (L)
A. IN [R]	AUDIO INPUT (R)
A. MUT [H]	AUDIO MUTE Ⓗ
A. MUTE [H]	AUDIO MUTE Ⓗ
A. OUT [L]	AUDIO OUTPUT (L)
A. OUT [R]	AUDIO OUTPUT (R)
A. RF OUT	AUDIO RF SIGNAL OUTPUT
A/VS/S. DATA	AV SW/SERIAL DATA
AC ONLINE	AC ONLINE
AC. O/EE. H	AC ONLINE/EE Ⓗ
AFC S C	AFC S CURVE
AFC [S]	AFC S CURVE
AFC. DEF	AFC DEFEAT
ARFC OUT	AUDIO RF SIGNAL OUTPUT
ART. V	ARTIFICIAL VERTICAL SYNC SIGNAL
ART. V. MM	ARTIFICIAL VERTICAL SYNC SIGNAL MONO MULTI
ART. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL Ⓗ/NORMAL
AT. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL
ATSW/TEST/NOR/SE	TEST/NORMAL/SERVICE
AUDIO IN [L]	AUDIO INPUT (L)
AUDIO IN [R]	AUDIO INPUT (R)
AUDIO OUT [L]	AUDIO OUTPUT (L)
AUDIO OUT [R]	AUDIO OUTPUT (R)
AUDIO SELECT [H]	AUDIO SELECT Ⓗ
AUDIO. L	AUDIO (L)
AUDIO. R	AUDIO (R)
AV CNT	AV CONTROL
AV CTL	AV CONTROL
AV CTL/S. CLK	AV CONTROL/SERIAL CLOCK
AV. C.M.	AV CONTROL MODE
AVCNT/METER. R	AV CONTROL/LEVEL METER (R)
AVSW/METER. L	AV SW/LEVEL METER (L)
B MODE. H	B MODE Ⓗ
B.G.P	BURST GATE PULSE
BACKUP 5V	BACK UP 5V
BAND. U.E.	BAND U
BANDVL. D	BAND VL
BI/MI [L]	BILINGUAL/MIX Ⓛ
BIL	BILINGUAL
BIL [L]	BILINGUAL Ⓛ
BIL. [H]	BILINGUAL Ⓗ
BIL/M1 [L]	BILINGUAL Ⓛ
BS CLOCK	BS CLOCK
BS DATA	BS DATA
BS LCH IN	BS L CHANNEL INPUT
BS MIX [H]	BS MIX Ⓗ
BS MON [H]	BS MONITOR Ⓗ
BS MONI [H]	BS MONITOR Ⓗ
BS RCH IN	BS R CHANNEL INPUT
BS VIDEO	BS VIDEO SIGNAL
BS VIDEO/BS1	BS VIDEO SIGNAL
BS [H]	BS Ⓗ
BS. LEVEL	BS LEVEL
BS. M [H]	BS MONITOR Ⓗ
BS/VTR [H]	BS/VTR Ⓗ
BUS CLK	BUS CLOCK
BUS LSN	BUS LISTEN
BUS TLK	BUS TALK
BUZZER	BUZZER
CAP EC	CAPSTAN TORQUE CONTROL
CAP M GND	CAPSTAN MOTOR GND
CAP. ET	CAPSTAN TORQUE CONTROL
CAP. FG1	CAPSTAN FG1 PULSE
CAP. FG2	CAPSTAN FG2 PULSE
CAS. SW	CASSETTE SW
CCN	PLAYBACK CONTROL SIGNAL (–)
CCP	PLAYBACK CONTROL SIGNAL (+)
CHM	CONTROL SIGNAL (+)
CHP	CONTROL SIGNAL (–)
CINEM [L]	CINEMA Ⓛ
CINEMA [L]	CINEMA Ⓛ
CINEMA/MIX	CINEMA/MIX
CKL	RATCH LOCK
CKS	SHIFT LOCK
CL	CLOCK
CLK	CLOCK
CLK (C.G)	CLOCK
CLOCK. IN	CLOCK INPUT
CLP	CLAMP
COL/B/W/NOR	COLOUR/BLACK & WHITE/NORMAL
COLOR [H]	COLOUR Ⓗ
CONV	CONVERTOR
CS	CHIP SELECT
CTL GND	CONTROL GND
CTL HEAD [+]	CONTROL HEAD (+)
CTL HEAD [–]	CONTROL HEAD (–)
CTL [+]	CONTROL HEAD (+)
CTL [–]	CONTROL HEAD (–)
CUE BIAS	CUE BIAS
CURRENT LIM	CURRENT LIMMITER
CYL ET	CYLINDER TORQUE CONTROL

CYL GND	CYLINDER GND
D.F.M. REC [H]	DELAIED FM RECORDING Ⓗ
D. FM REC [L]	DELAIED FM RECORDING Ⓛ
D. GND	DIGITAL GND
D. REC [H]	DELAYED RECORDING Ⓗ
D4/S. LED	D4/STILL LED
D4/STILLED	D4/STILL LED
DAC [CLK]	TUNER DAC (CLOCK)
DAC/FSCS	TUNER DAC/FS CHIP SELECT
DAREC [H]	DELAYED AUDIO RECORDING Ⓗ
DATA	DATA
DECODER [L]	DECODER (L)
DECODER [R]	DECODER (R)
DEW	DEW
DEW SNS	DEW SENSOR
DFMRE [H]	DELAYED FM AUDIO RECORDING Ⓗ
E. REC 5V	EXCEPT RECORDING 5V
EC	ERROR TORQUE CONTROL
ECR	ERROR TORQUE CONTROL REFERENCE VOLTAGE
EDT TRIG [L]	EDIT TRIGGER Ⓛ
EDIT [H]	EDIT Ⓗ
EE [H]	EE Ⓗ
EE [H]/INS [M]	EE Ⓗ/INSERT Ⓜ
EE. VV. TR	EE/VV/TRICK PLAY
EJECT. PO	EJECT POSITION
EJECT/VDET	EJECT/REVERSE SLOW LOCK
ENV. SEL	ENVELOPE SELECT
ENVE. OUT	ENVELOPE OUTPUT
ENVE. SEL	ENVELOPE SELECT
ENV SELECT	ENVELOPE SELECT
EP [H]	LP Ⓗ
EP/LP [H]	LP Ⓗ
EP/LP/SP	LP/SP
EP/SS [H]	LP/SLOW/STILL/STOP Ⓗ
EPROMCS	EPROM CHIP SELECT
EX. REC 5V	EXCEPT RECORDING 5V
FF/REW [L]	FIRST FORWARD/REWIND Ⓛ
FG1 IN	FG1 PULSE INPUT
FG2 IN	FG2 PULSE INPUT
FILTER ADJUSTMENT	FILTER ADJUSTMENT
FLY ERASE [H]	FLYING ERASE HEAD ON Ⓗ
FLY ON [H]	FLYING ERASE HEAD ON Ⓗ
FLY. E [H]	FLYING ERASE HEAD ON Ⓗ
FM MUT [H]	FM AUDIO MUTE Ⓗ
FM MUTE [H]	FM AUDIO MUTE Ⓗ
FM OUT [L]	FM OUTPUT (L)
FM OUT [R]	FM OUTPUT (R)
FM PACK OUT [L]	FM PACK OUTPUT (L)
FM PACK OUT [R]	FM PACK OUTPUT (R)
FM/BS SEL [L]	FM/BS SELECT (L)
FM/BS SEL [R]	FM/BS SELECT (R)
FS. CLK	FS CLOCK
FUL. E [H]	FULL ERASE HEAD ON Ⓗ
FULL. E [H]	FULL ERASE HEAD ON Ⓗ

FULL. E. 12V	FULL ERASE 12V
GND [A]	GND (ANALOG)
GND [TU]	GND (TUNER)
GND/N. SW. 12V	GND/NON SW 12V
H. SYNC	HORIZONTAL SYNC
H. AMP. SW	HEAD AMP SW PULSE
H. P <R>	HEAD PHONE (R)
H. P <L>	HEAD PHONE (L)
H. P GND	HEAD PHONE GND
H. P OUT [L]	HEAD PHONE OUTPUT (L)
H. P OUT [R]	HEAD PHONE OUTPUT (R)
H. SW	HEAD SW PULSE
HEAD PHONE [L]	HEAD PHONE (L)
HEAD PHONE [R]	HEAD PHONE (R)
HEAD SW	HEAD SW
HEATER [+]	HEATER (+)
HEATER [–]	HEATER (–)
HSS	HORIZONTAL SYNC SIGNAL
HTR [+]	HEATER (+)
HTR [–]	HEATER (–)
I RFE	REFERENCE CURRENT
ICL	CONTROL AGC CIRCUIT
IF	INTERMEDIATE FREQUENCY
IN SELA1	INPUT SELECT A1 POSITION
IN SELA2	INPUT SELECT A2 POSITION
IN SELA3	INPUT SELECT A3 POSITION
INS L/R [L]	INSERT Lch/Rch Ⓛ
INS. [H]	INSERT Ⓗ
INSEL A1	INPUT SELECT A1 POSITION
INSEL A2	INPUT SELECT A2 POSITION
INSERT	INSERT
INSERT [H]	INSERT Ⓗ
IO CS	INPUT/OUTPUT CHIP SELECT
JOG1	JOG1
JOG S3 LED/FOWRD	JOG LED/FORWARD LED
JOG/F. LED	JOG LED/FORWARD LED
JSB [H]	JSB Ⓗ
JST. CLCK	JUST CLOCK
JST. CLK	JUST CLOCK
JST. CLOCK	JUST CLOCK
L. OUT	Lch OUTPUT
L. CH [H]	Lch Ⓗ
L. CH [L]	Lch Ⓛ
LED (MAIN)	LED (MAIN)
LED (STEREO)	LED (STEREO)
LED (SUB)	LED (SUB)
LED CKL	LED SERIAL CLOCK
LED CKS	LED SERIAL CLOCK
LED DATA	LED SERIAL DATA
LINE IN 1 [L]	LINE INPUT 1 (L)
LINE IN 1 [R]	LINE INPUT 1 (R)
LINE IN 2 [L]	LINE INPUT 2 (L)
LINE IN 2 [R]	LINE INPUT 2 (R)
LINE IN V	LINE INPUT VIDEO
LINE IN [L]	LINE INPUT (L)

LINE IN [R]	LINE INPUT (R)
LINE OUT [L]	LINE OUTPUT (L)
LINE OUT [R]	LINE OUTPUT (R)
LP [H]	LP Ⓗ
LPTRI [L]	LP TRICK PLAY Ⓛ
Lch/A. DUB	Lch/AUDIO DUBBING
M GND	MOTOR GND
M REG	MOTOR REGULATOR
MAIN OUT	MAIN OUTPUT
MAIN [L]	MAIN Ⓛ
MAIN/MONO	MAIN/MONAURAL
MAX IN	MAXIMAM INPUT
MES [H]	MESECAM Ⓗ
MESE [H]	MESECAM Ⓗ
MESE [L]	MESECAM Ⓛ
METER 5V	LEVEL METER 5V
METER [L]	LEVEL METER (L)
METER [R]	LEVEL METER (R)
METER. L/AVS	LEVEL METER (L)
METER. R/AVC	LEVEL METER (R)
MI/BI [L]	MIX Ⓗ/BILIGUAL
MIC GND	MIC GND
MIC IN	MIC INPUT
MIC IN [L]	MIC INPUT (L)
MIC IN [R]	MIC INPUT (R)
MIC [H]	MIC Ⓗ
MIX [H]	MIX Ⓗ
MIX [H]/CINEMA [L]	MIX Ⓗ/CINEMA SOUND Ⓛ
MIX/CINE	MIX Ⓗ/CINEMA SOUND Ⓛ
MIX/CINEMA [L]	MIX Ⓗ/CINEMA SOUND Ⓛ
MN. H/M. L	MONAURAL Ⓗ/MAIN Ⓛ
MN. H/MAI. L	MONAURAL Ⓗ/MAIN Ⓛ
MN2/MES. L	MONAURAL 2/MESECAM Ⓛ
MODE SEL	AUDIO MODE SELECT
MODE SW	AUDIO MODE SW
MODE. S. IN	AUDIO MODE SELECT INPUT
MODE. S. OUT	AUDIO MODE SELECT OUTPUT
MONO [H]	MONAURAL Ⓗ
MONO [H]/MAIN [L]	MONAURAL Ⓗ/MAIN Ⓛ
MONO2 [L]	MONAURAL 2
MONO2/MESE [FM(L)]	MONAURAL 2/MESECAM (FM Ⓛ)
MOTOR GND	MOTOR GND
MUTE	MUTE
N. A. REC [L]	NORMAL AUDIO RECORDING
N. SW 12V	NON SW 12V
N. SW. 5. DET	NON SW 5V DETECT
NICAM	NICAM
NICAM [L]	NICAM Ⓛ
NOL [H]	PAL Ⓗ/4.43 NTSC Ⓜ/3.58 NTSC Ⓛ
NOR/SOFT [H]	NORMAL/SOFT TAPE PLAY Ⓗ
NORMAL [H]	NORMAL Ⓗ
NR BIAS	NR BIAS
NTSC [L]	NTSC Ⓛ
OCH	CONTROL AGC CIRCUIT
OUT	OUTPUT

P-OFF [H]	POWER OFF Ⓗ
P-OFF [L]	POWER OFF Ⓛ
P. FAIL	POWER FAILURE DETECT
P. OFF [H]	POWER OFF Ⓗ
P. OFF [L]	POWER OFF Ⓛ
PAL [H]	PAL Ⓗ
PAL [L]/NTSC [H]	PAL Ⓛ/NTSC Ⓗ
PB ADJ OUT	PLAYBACK ADJUST OUTPUT
PB OUT	PLAYBACK OUTPUT
PB. H	PLAYBACK Ⓗ
PFG	PG/FG
PHOTSN +B	PHOTO SENSOR +B
PICT. CNT	PICTURE CONTROL
PLAY LED/RVS LED	PLAY LED/REVERSE LED
PLAY. PO	PLAY POSITION
PLAY/R. LED	PLAY LED/REVERSE LED
PLY/DEW	PLAY/DEW Ⓗ
POWER OFF [L]	POWER OFF Ⓛ
PREROLL [H]	PREROLL Ⓗ
PWRFAIL	POWER FAILURE DETECT
R. CH [H]	Rch Ⓗ
R. CH [L]	Rch Ⓛ
R. ST	RESET
R/S/F	REVERSE Ⓗ/STOP Ⓜ/FORWARD Ⓛ
RCH [H]	Rch Ⓗ
REC 12V	RECORDING 12V
REC CHROMA	RECORDING CHROMINANCE SIGNAL
REC H	RECORDING Ⓗ
REC IN	RECORDING INPUT
REC OUT [L]	RECORDING OUTPUT Ⓛ
REC START	RECORDING START
REC VR [C]	RECORDING VOLUME (COMMON)
REC VR [L]	RECORDING VOLUME (L)
REC VR [R]	RECORDING VOLUME (R)
REC Y	RECORDING LUMINANCE SIGNAL
REC [H]	RECORDING Ⓗ
REC. C	RECORDING CHROMINANCE SIGNAL
REC. Y	RECORDING LUMINANCE SIGNAL
REC/EE CTL	RECORDING/EE CONTROL
REEL-T	REEL PULSE (TAKE-UP)
REEL-S	REEL PULSE (SUPPLY)
REGULATOR FILTER	REGULATOR FILTER
RESET	RESET
REV M F/R	REVIEW MOTOR FORWARD/REVERSE
REV M V1	REVIEW MOTOR V1
REV M V2	REVIEW MOTOR V2
REV MOTOR F/R	REVIEW MOTOR FORWARD/REVERSE
REV MOTOR V1	REVIEW MOTOR V1
REV MOTOR V2	REVIEW MOTOR V2
REV MOTOR [+]	REVIEW MOTOR (+)
REV MOTOR [–]	REVIEW MOTOR (+)
REV. M. GND	REVIEW MOTOR GND
RF. CHROMA	RF CHROMINANCE SIGNAL

RF OUT	RF OUTPUT
RF Y	RF LUMINANCE SIGNAL
RF. Y. IN	RF LUMINANCE SIGNAL INPUT
RF. Y. OUT	RF LUMINANCE SIGNAL OUTPUT
ROTAR. SW	ROTARY SW
ROTARY	ROTARY SW
RST	RESET
RST [L]	RESET Ⓛ
Rch/INST	Rch/INSERT
S IN	SERIAL DATA INPUT
S OUT	SERIAL DATA OUTPUT
S-PHOTO	SUPPLY PHOTO TRANSISTOR
S-RL. PLS	SUPPLY REEL PULSE
S. CLK	SERIAL CLOCK
S. CLK/AV	SERIAL CLOCK/AV
S. DATA	SERIAL DATA
S. DATA/A	SERIAL DATA
S. PHOTO	SUPPLY PHOTO TRANSISTOR
S. TAB [L]	SAFETY TAB SW ON Ⓛ
S/P/N	SECAM/PAL/NTSC
SC IN	SERIAL CLOCK INPUT
SC OUT	SERIAL CLOCK OUTPUT
SCK SELECT	SERIAL CLOCK SELECT
SEL OUT [L]	SELECT OUTPUT (L)
SEL OUT [R]	SELECT OUTPUT (R)
SHUTTLE 1	SHUTTLE 1
SIF	SOUND INTERMEDIATE FREQUENCY
SLMUT [H]	INPUT SELECT MUTE Ⓗ
SLNID [+]	SOLENOID (+)
SLNID [–]	SOLENOID (–)
SLW TR. MM	SLOW TRACKING MONO MULTI
SLW TR. REF	SLOW TRACKING REFERENCE VOLTAGE
SNS. GND	SENSOR GND
SOFT [H]	SOFT TAPE PLAY Ⓗ
SOFT [H]/NORMAL	SOFT TAPE PLAY Ⓗ/NORMAL Ⓗ
SOLENOID ON [L]	SOLENOID ON Ⓛ
SP [H]	SP Ⓗ
SP/L/SLP	SP/LP
SSS [L]	SLOW/STILL/STOP
STEREO LED	STEREO LED
STEREO [H]	STEREO Ⓗ
STEREO [L]	STEREO Ⓛ
STOP. PO	STOP POSITION
STOP/5V	STOP POSITION/5V
STOP1/TAPE SEL	STOP1 POSITION/TAPE SELECT
STOP1/PAL:ST	STOP1 POSITION/PAL
STOP2. PO	STOP 2 POSITION
STOP2/S-TAB	STOP 2 POSITION/SAFETY TAB SW
STREO [H]	STEREO Ⓗ
SUB BIAS	SUB BIAS
SUB. SW	SUB SW
SVHS CAS [L]	S-VHS CASSETTE Ⓛ
SW. 5. DET	SW 5V DETECT
SYNC [L]	SYNC Ⓛ
SYSCON 5V	SYSTEM CONTROL 5V
SYSTEM	SYSTEM SW
T-PHOTO	TAKE-UP PHOTO TRANSISTOR
T-RL. PLS	TAKE-UP REEL PULSE
T. BUSCLK	TIMER BUS CLOCK
T. BUSLSN	TIMER BUS LISTEN
T. BUSTLK	TIMER BUS TALK
T. END [L]	TAPE END Ⓛ
T. PHOTO	TAKE-UP PHOTO TRANSISTOR
TAPE END [L]	TAPE END Ⓛ
TAPE END [L]/CAM	TAPE END Ⓛ/CAMERA PAUSE
TEST	TEST MODE
TPZ	TRAPEZOIDAL WAVE CIRCUIT
TRIC [L]	TRIC PLAY Ⓛ
TRICK [L]	TRIC PLAY Ⓛ
TRK. ENV	AUTO TRACKING ENVELOPE DETECT
TU. AUDIO	TUNER AUDIO
TU. GND	TUNER GND
TU. V. IN	TUNER VIDEO SIGNAL INPUT
TU. VIDEO	TUNER VIDEO
TUN NOR IN	TUNER NORMAL INPUT
TUN R	TUNER AUDIO (R)
TUN. AUDIO IN	TUNER AUDIO INPUT
TUNER 12V	TUNER 12V
TUNER L	TUNER AUDIO (L)
TUNER V IN	TUNER VIDEO SIGNAL INPUT
TUNER [L]	TUNER AUDIO (L)
TUNER [N]	TUNER AUDIO (NORMAL)
TUNER [R]	TUNER AUDIO (R)
TUNER. 12	TUNER 12V
TUOFF [H]	TUNER OFF Ⓗ
TV. AUDIO	TV AUDIO
TV/VTR	TV/VTR
TXTON [L]	TEXT ON Ⓛ
U. REG45V	UNREGULATOR 45V
UNREG	UNREGULATOR
UNREG19V	UNREGULATOR 19V
V. REF	REFERENCE VOLTAGE
V. EE [H]	VIDEO EE Ⓗ
V. EE [L]	VIDEO EE Ⓛ
VCO REF	REFERENCE OSCILLATER
VD. IN	VIDEO SIGNAL INPUT
VD. OUT	VIDEO SIGNAL OUTPUT
VIDEO EE [L]	VIDEO EE Ⓛ
VIDEO IN	VIDEO SIGNAL INPUT
VIDEO OUT	VIDEO SIGNAL OUTPUT
VM	MOTOR VOLTAGE
VM DOWN [L]	MOTOR VOLTAGE DOWN Ⓛ
VSS	VERTICAL SYNC SIGNAL
VTR [H]	VTR Ⓗ
VTR. 12V	VTR 12V
X IN	OSCILLATOR INPUT
X OUT	OSCILLATOR OUTPUT

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE

IC4501

JK4903
(AV1)
TV

① AUDIO OUT (R)
② AUDIO IN (R)
③ AUDIO OUT (L)
⑥ AUDIO IN (L)

TW4907
TW4903
TW4902
TW4901

QR4502 MUTE
QR4501 MUTE

53
57
9
10
14
15

INPUT SELECT SWITCH RCH
INPUT SELECT SWITCH LCH

AGC & SWITCH

(C/D)
JK4902
(AV2)
DECODER/EXT

① AUDIO OUT (R)
② AUDIO IN (R)
③ AUDIO OUT (L)
⑥ AUDIO IN (L)

QR4503 MUTE
QR4504 MUTE

51
52

SWITCH RCH
SWITCH LCH

OUTPUT SELECT SWITCH RCH
OUTPUT SELECT SWITCH LCH

PNR RCH
PNR LCH

FM MODULATOR/ DEMODULATOR

LPF
BPF

IIC BUS INTERFACE

42 SYS IIC CLOCK
43 SYS IIC DATA
TO/FROM SYSTEM CONTROL

VCO F0 45 FSC
FROM LUMINANCE & CHROMINANCE

27 AUDIO H.SW
FROM SYSTEM CONTROL

TO TUNER
RFC AUDIO OUT 59

FROM DECODER
TUNER AUDIO (R) QR7604 MUTE 8
TUNER AUDIO (L) QR7603 MUTE 13

PB 60Hz Ⓗ
FROM SYSTEM CONTROL

D.FM REC Ⓛ
FROM SYSTEM CONTROL

30

PREAMP & SWITCH
29

AGC
24
21
22

P3502 8
P3502 9
P3502 10

L
R
Hi-Fi AUDIO HEAD

IC3001

FROM DECODER/ TV DEMODU
TUNER AUDIO (N) QR7601 MUTE 75

SW GAIN
78
QR4004 MUTE
62

A.HEAD (W) 2
A.HEAD (R) 4
TO/FROM AC HEAD

ALC
71
73
8
7

NORMAL SELECT SWITCH
61

IC0201 (CAPSTAN MOTOR DRIVE)

CAPSTAN MOTOR L0201

TL0201

MOTOR DRIVE

DIFFERENTIAL AMPRIFIER

TORQUE CONTROL

TL AMP

EC AMP

POSITION SIGNAL PROCESS

TORQUE DIRECTION

CONTROL LOGIC

H1

H2

H3

LOADING MOTOR

INPUT		OUTPUT		MODE
PIN 15	PIN 16	PIN 19	PIN 21	
H	L	H	L	FORWARD
L	H	L	H	REWIND
H	H	L	L	BRAKE
L	L	OPEN	OPEN	STOP

R0206 CAPSTAN FG HEAD

CAP FG5V

TW2015

TW2002

TL2503

TL2502

REG 14V

P0201 P2501 1 — CURRENT LIMIT

P0201 P2501 2 — CAPSTAN ERROR TORQUE

P0201 P2501 3 — CAPSTAN REVERSE/ FORWARD

P0201 P2501 4 — CAPSTAN FG IN

P0201 P2501 12 — LOADING (H)

P0201 P2501 11 — UNLOADING (H)

P1501 1 / P1501 2 — P2501 P0201 9 / P2501 P0201 8

CAPSTAN FG OUT

CTL OUT

EX.FF/REW (L)

S1501 MODE SW

POSITION SW2

POSITION SW3

POSITION SW1

CYLINDER STATOR UNIT

P2901			
6,7	VM	P2501-3,4	MAIN COIL 2
1	M2	P2501-9	
9	M1	P2501-1	MAIN COIL 1
3	M3	P2501-7	MAIN COIL 3
5	GND	P2501-5	
8	HE-	P2501-2	
4	HE+	P2501-6	
2	VH+	P2501-8	

HALL IC

REG 14V

REG 5V

IC2501 (CYLINDER MOTOR DRIVE)

MOTOR DRIVE

PG/FG

DIFFERENTIAL AMPLIFIER

SCHMIT

TORQUE CONTROL

CYL PFG

CYLINDER ERROR TORQUE

N.SW 5V

TAKE-UP PHOTO

SUPPLY PHOTO

SAFETY TAB (L)

Q1501 TAKE UP PHOTO SENSOR

D1501 SENSOR LED

Q1502 SUPPLY PHOTO SENSOR

S7507 SAFETY TAB SW

IC1501 (T-REEL SENSOR)

IC1502 (S-REEL SENSOR)

REG 5V

TL6013

TL6012

S-REEL PULSE

T-REEL PULSE

CTL HEAD

P4003 5 / P4003 6

CTL HEAD(-)

CTL HEAD(+)

IC6001 (SYSTEM CONTROL/SERVO IC)

20MHz IN

20MHz OUT

32KHz IN

32KHz OUT

X6002

X6001

FIP (L)

QR1001

BACK UP 5V

C7507

IC7504

P.FAIL (L)

RESET

N.SW 5V

IC7502

IR

IR RECEIVER

IC7503

RESET (L)

S.DATA IN

S.DATA OUT

S.CLOCK

FIP CS

SERIAL DATA

SERIAL CLOCK

CS

DP7501

TIMER DISPLAY

F+ F+ F- F-

Q1001

BUFFER

FROM POWER

HEATER(+)

HEATER(-)

UNREG -29V

Q1006

IC7501

SEG1

SEG18

GRID1

GRID7

VEE

POWER SW

POWER S7506

EJECT S7505

EXT LINK S7508

A2

FF S7514

T.REC S7513

STOP S7515

REC S7501

CH DOWN S7502

A5

REW S7512

PLAY S7511

PAUSE S7503

CH UP S7504

A4

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE

TO/FROM SYSTEM CONTROL

Y/C VIDEO OUT

VIDEO OUT

TO TUNER

RFC VIDEO OUT

FROM TV DEMODULATOR

TUNER VIDEO

Q4904

AMP

(C/D)

IC4901

20

CLAMP

7

CLAMP

TO SYSTEM CONTROL

C SYNC

JK4903
(AV1)
TV

(A/B)

8 PB +12V

7 BLUE

11 GREEN

15 RED

16 BLANKING

19 VIDEO OUT

20 VIDEO IN

TW3002

TW3003

36

CLAMP

18

34

(C/D)

JK4902
(AV2)
DECODER/EXT

33 PB (H)

PS12V

Q4903

8 PB +12V

7 BLUE

11 GREEN

15 RED

16 BLANKING

19 VIDEO OUT

20 VIDEO IN

26

28

CLAMP

FROM SYSTEM CONTROL

ART V/H/N

Q4901

QR4903

FROM SYSTEM CONTROL

AV1 PB (H)

16 RGB OFF (H)

PS 12V

TO/FROM SYSTEM CONTROL

SYS IIC CLOCK

SYS IIC DATA

TO/FROM SYSTEM CONTROL

OSD IIC DATA

OSD IIC CLOCK

2

3

IIC BUS INTERFACE

IC3001

IC3501

YNR
HSS
NC1
PICT
1H DELAY
LPF
DDC
NOR
CLP1
EE/ FAMI
DET
NC2
AGC
MAIN LPF
DTE
NLE NLDE
ENV DET
PEAKING
H-TRAP
SUB LPF
FM DEM
DOUB LIM
Y/C MIX
REC-Y ADJ
LPF
AGC DET
RF AGC
L-TRAP &HPF
W/D CLIP
DEV ADJ
FM MOD
MAIN EMPH
AMP
ART SYNC
SUB CLAMP
COLOUR KILLER SW
BURST UP/DOWN
630KHz BPF
CACC
REC-C ADJ
BPF (FAMI)3.58M (PAL-PB)2.2M (NTSC-PB) 1.79M
BPF 3.58M/ 4.43M
BM-B (PB)2.2/1.79M → 4.43/3.58M (FAMI)2.2M → 4.43M
NTSC ALTERNATION
LPF
BM-A (REC)4.43/3.58M (PB)630K → 2.2/1.79M (FAMI)3.58M → 2.2M
2HDL 1HDL
0HDL
0HDL
ACC
ACC DET
IIC BUS TRANSCEIVER
PHASE ROTATION
X2
2fsc
fsc
1/2
1/4
1/4
SUB BM
F.DET
VXO
VCO
1/40
APC CK DET
AFC
SIDE LOCK
PB Q ADJ
FH
X3001
FAMI MODE:When setting the NTSC CONVERTER to ON on the OSD Screen Display, the signals from NTSC Signal Source (ex.NTSC GAME Machine)connected to the VCR can be appeared on the PAL TV.However when recording, it is not recorded correctly.

QR3502
QR3501
LP Ⓗ
PAL EP Ⓗ
TW3030
TW3001
AMP & H.AMP SW
PREAMP & H.SW
H.AMP SW
PREAMP & H.SW
LP L
LP COM
LP R
SP L
SP COM
SP R
P3502 3
P3502 2
P3502 1
P3502 6
P3502 5
P3502 4
TO/FROM CYLINDER VIDEO HEAD
HEAD SW
H.AMP SW
CURR.EMPH Ⓗ
D.REC Ⓗ
LP Ⓗ
TRACKING ENV.
ENV. SELECT
TO/FROM SYSTEM CONTROL
FSC
TO SYSTEM CONTROL/ Hi-Fi AUDIO
ROTARY SW
F.ADJ.
FROM SYSTEM CONTROL